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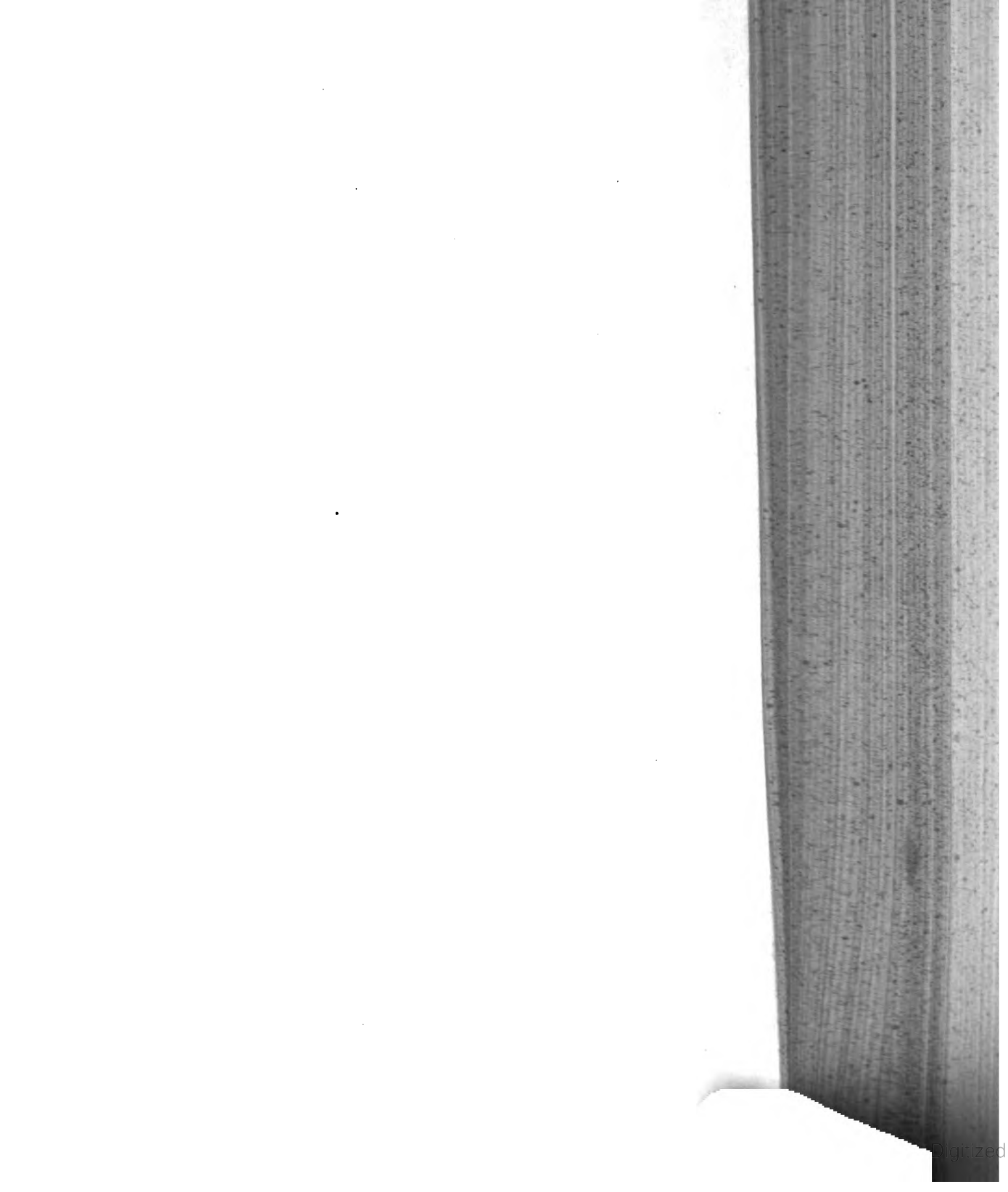
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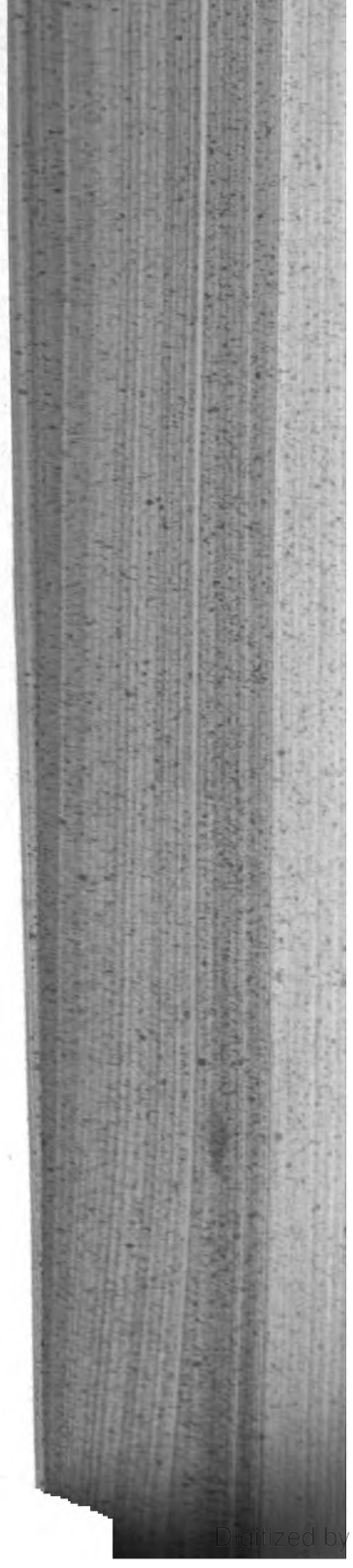

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TRANSACTIONS

OF THE

Massachusetts Horticultural Society,

FOR THE YEAR 1881.

PART I.

BOSTON:
PRINTED FOR THE SOCIETY.
1881.

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RANSACTIONS

OF THE

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R THE YEAR 1881.

PART I.

BOSTON:
D FOR THE SOCIETY.
1881.

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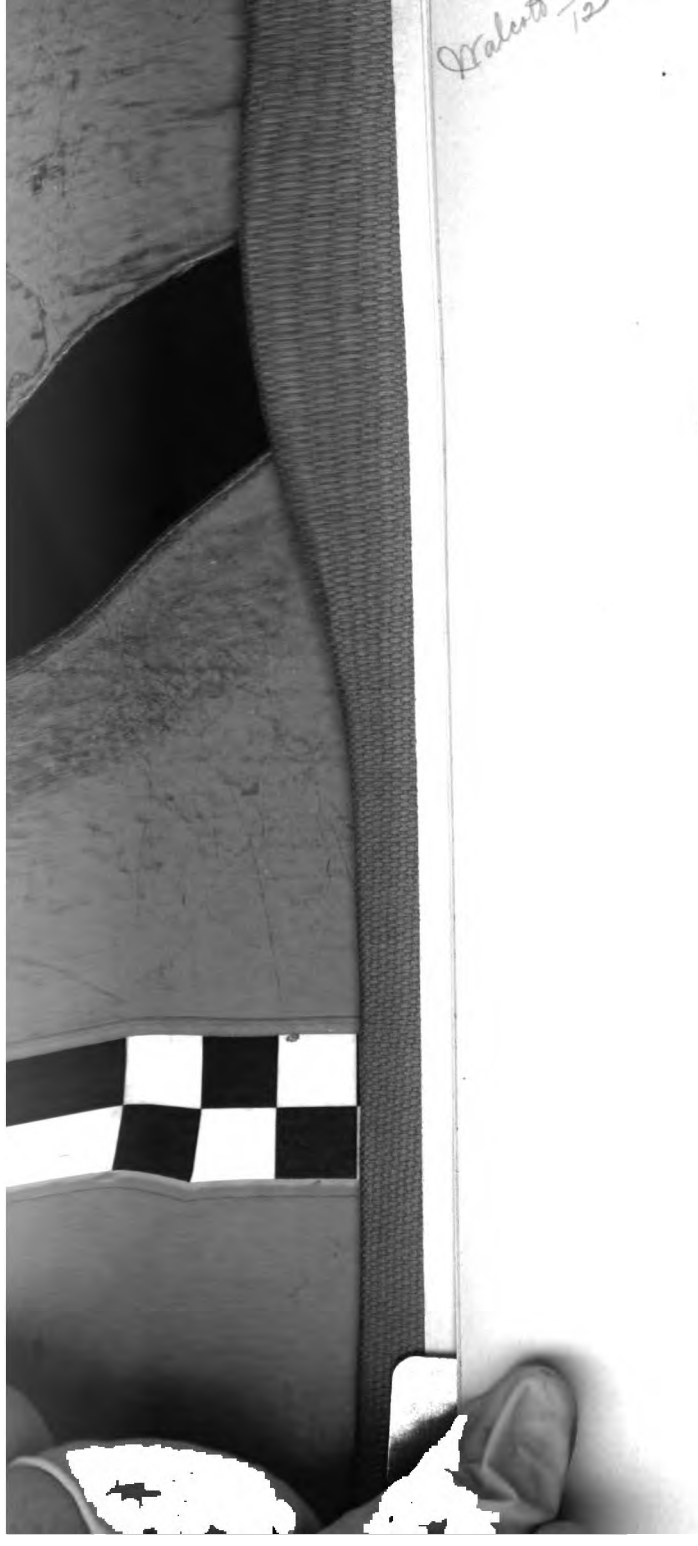

15 August, 1935
H. C. L.
(Gift [illegible] 5 July, 1935)

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Committee on Publication and Discussion, take this oppor-
to repeat what they have heretofore stated, that the Society
to be held responsible for the certainty of the statements,
rectness of the opinions, or the accuracy of the nomenclature
papers and discussions now or before published, all of
nust rest on the credit or judgment of the respective writers
ıkers, the Society undertaking only to present these papers
scussions, or the substance of them, correctly. The
›f a prize or gratuity for an Essay is not to be understood
ying that the Committee approve it in every particular,
y that they believe it calculated, *on the whole*, to promote
nce or art of Horticulture.

BENJAMIN G. SMITH, *Chairman.*

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TRANSACTIONS

OF THE

asetts Horticultural Society.

BUSINESS MEETING.

SATURDAY, January 1, 1881.

d stated meeting was holden at 11 o'clock, the Francis B. Hayes, in the chair.

delivered his annual address, as follows :—

lemen of the Massachusetts Horticultural Society:

with the usages of the Society we have assembled of the year to review the doings of the past, to in what has been accomplished,—to regret our with determined resolves of amendment in the ew our pledges of devotion to the interests of the with united will, to proceed to do in our day what is ted of us, as successors of the good men, who in erality founded, established, and carried on to titution as a means for the material and moral mankind.

ng with profound gratitude what has been done by s well as by those who now live to receive our counsel and cheer us in the performance of duty, our situation is at the present time, and consider ent upon us to do, that we may perpetuate and fulness of this Society for the advantage of our of future generations.

rer's report, submitted a year since, it appeared then possessed property of the estimated value of d it owed $84,500. The debt consisted of $60,000,

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secured by a mortgage of our real estate; a loan of $12,000, not bearing interest, payable to Harvard College in 1899, this being the amount we have the use of, by the gift of the late Josiah Stickney, for the purchase of books; a note of $12,000, which we borrowed originally of the Market National Bank, and have paid within a few months by borrowing the same amount for that purpose of another bank; and the sum of $500 due the Committee on Publication.

We depend mainly upon the real estate belonging to the Society, and upon what we annually receive from Mount Auburn to meet our expenses. It will be seen by the above report that we received in 1879 from rents $14,950.80, and from Mount Auburn $2,212.41. Our Treasurer stated that our finances were not self-sustaining at the date of his report last year.

I am happy to inform you that I learn from the Treasurer our financial situation is now somewhat better than it was a year ago. That the income from our real estate for the year 1880 was about $4,000 more than it was the previous year, and that Mount Auburn will give us also a small increase of revenue. The Treasurer estimates that our expenses have increased about $1,300, for the year 1880, over those of the previous year. This would show an improvement in net income of about $3,000 for the past year. We cannot rely upon the accuracy of the statement, as it necessarily is but an approximate one, the Treasurer being obliged to wait to receive the accounts from Mount Auburn before he submits his annual report. So favorable a statement as this could not have been presented, if proper repairs had been made upon our building, which are imperatively demanded.

Our exhibitions are not so important and beautiful as they might be made; and to secure an improvement of them, larger sums than we have lately been able to afford, should be appropriated for prizes to stimulate exhibitors, and to induce them to display their products in our halls.

Moreover, our exhibitions should be made better known to the public than they have been. During the past year they have been excellent, and worthy of greater attention than they have commanded. The community do not understand how beautiful and interesting they are, and it seems to me desirable that measures should be taken through the public prints, by advertisements and otherwise, to call attention to them, and thus not only the public but this Society would be much benefited.

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The chief part of the revenue of foreign horticultural societies is derived from entrance fees paid by visitors, and the exhibitions of most of the societies of this country are sustained by the visitors. At Worcester, in our own State, the sums derived from annual exhibitions have been very considerable, far exceeding the receipts of our Society from the same source, and this result has been obtained not only by the personal efforts of committees having the matter in charge, but by judiciously advertising the exhibitions in various ways by which many visitors have been attracted to them. It certainly is strange that though our Society has its home in the largest city of New England, with a building containing all the conveniences which man could desire for the display of horticultural products, and situated in the most eligible locality for access by visitors, and its exhibitors and patrons those who possess the most extensive and beautiful gardens and conservatories in Massachusetts, many of these gentlemen being distinguished throughout the world as proficients in the science and art of horticulture; yet its exhibitions are poorly attended, and its receipts from visitors are less than those derived from the show of many a county society in the country. I call attention to this subject believing that some means should be adopted to bring our exhibitions more into public notice, by which the pleasure and improvement of the people at large would be much increased, and the Society benefited from the increase of admission fees, so as to enable it to enhance the beauty and increase the usefulness of its exhibitions.

As I have before stated our building requires repairs. It needs them both outside and inside. I think it would be desirable to expend from three to five thousand dollars very soon to preserve and judiciously improve our estate. It is most unwise to allow our elegant structure to deteriorate for want of proper care. Unless important repairs are made forthwith, a very great expenditure will soon be wanted to put the estate in a tenantable condition.

We have a debt of $12,000 incurred by spending in past years more than our income. Upon assuming the duties of the office to which you elected me, my attention was particularly directed to the financial situation of the Society, and though, by the rules governing us, it does not belong to your President to attend to the management of the finances of the Society, yet it is expected of him to have a general acquaintance with and supervision of its affairs

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to qualify him for the duty imposed upon him by the Constitution and By-Laws, "to report from time to time what measures, in his judgment, are necessary to promote its objects and extend its usefulness." The necessities of the times, and the pressing wants of the Society, as I have been informed, occasioned the debt; but now, in the improved financial condition of the country, in which this Society and its members generally participate, it seems to me we should take measures to discharge this incumbrance as soon as possible, and resolve that in the future the Society shall not expend more than its income. We must insist upon it that in no event shall we allow the Society's fixed investments to be lessened or incumbered under our management. I, therefore, call upon all members of our association, whether they are responsible or not in any manner for the creation of the debt, to unite as friends of the Society in discharging this debt. It must not be fixed permanently upon the Society. We ought not to borrow money to renew indefinitely the obligation. We must not place any mortgage on our estate to provide for its payment. It should be met and paid as early as possible during the present year, and if you will all aid, according to your means, the debt will soon be paid.

I again call your attention to the importance of making arrangements so that the library shall be used as a place of quiet study, for the accommodation of our members. It is degraded by its present use as an office where the business of the superintendent and of the transient tenants of the halls, in their multifarious occupations, is carried on so as to disturb and seriously annoy those who desire to make a legitimate use of the room. It wholly subverts the proper use of the library as a reading-room and for literary labor, and makes it a noisy business office, thus almost entirely setting aside and disregarding the intentions of those who have contributed liberally to provide a quiet resort, well furnished with books, for students in the science and art of horticulture, and a place which members can frequent to inform themselves, through the periodicals of the day, of the progress of the world in those matters in which they are especially interested. It is also the room where we should come together on stated days to listen to, and participate in, the discussions which you have instituted, undisturbed by the interruptions of business.

It seems to me not necessary to wait until additional buildings are obtained before we accomplish the desired object, as by some

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inexpensive alterations we can better provide for the tenants of the halls, and allow sufficient accommodation for the business wants of our officers.

In this connection I would inform you that the Executive Committee unanimously recommend to you amendments of the Society's Constitution and By-Laws, so as to allow the duties of treasurer, superintendent, and librarian to be performed by more than one person, instead of its being required, as it is now, that one person shall discharge all those different duties. It will, if you approve of the recommendation, be left to the Executive Committee to select, from time to time, such person or persons as they think best, for the interests of the Society, to fill those offices.

It gives me pleasure to bear witness to the able and faithful manner in which your different committees have discharged, during the past year, the duties respectively committed to them. By reading their reports you will observe that, in many respects, the exhibitions of 1880 have shown marked improvement over those of previous years. The Society has never had, I understand, so large and beautiful displays of fruits and flowers as have been exhibited the past year. Our collection of books has been rendered more valuable by the judicious action of the Library Committee in making additions to it. Your Committee of Arrangements have been diligent in the performance of their duties, and discharged them in such a manner as to give great satisfaction to the members of the Society.

I call your attention to the admirable manner in which your Secretary has edited the History of the Society, and reported its doings. I regret that he has not been able, from lack of time, to cause the publication of the Transactions of the Society beyond the year 1879, but trust that we shall soon see the other parts in print, and that circumstances will never again prevent the publication of the Society's Transactions in the early part of the year after they have taken place.

Ladies and Gentlemen, — It must never be forgotten by us that we owe a duty to those who, by their wisdom, liberality, and labors, founded and established this Society for the public good. Their work was not done for themselves and for us alone, but for all future generations. It devolves upon us, in accepting their legacy, to transmit it to our children not only unimpaired, but improved and strengthened by our work and contributions. While grate-

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fully remembering what has been done, it is not for us to rest satisfied with what has been accomplished, but, stimulated by the example of our predecessors, we must do our work as they did theirs, in a generous spirit, for posterity as well as for our own generation, or we shall not be worthy successors of those who have done so much for us. Our Society is yet in its infancy, and I believe there is a great future for it. There are those with us, and I hope there are many, who do not believe that nothing more need to be done, or will be done, by the members of this Society to increase its usefulness and add to its glory. We have inherited much, but we should not allow our inheritance to impair our energy or make us slothful in the performance of our duties. Let us always bear in mind that there is much before us to do. To the development of horticultural knowledge throughout the world this Society should make a liberal contribution. It has done something already, and we can look with great pleasure upon what has been accomplished under its auspices in introducing new varieties of plants and improved fruits, in the embellishment of gardens and grounds throughout the country, and in the dissemination of horticultural information. Yet we must not stop here. We are still but on the threshold in our investigations of the beauties and resources of nature, which will employ eternity to disclose. We have, I trust, but made a beginning of the great work this Society is destined to accomplish. We must not wait for others, or rely upon a few persons to bear the burden attending this work; but we must all do what our hands find to do, to build still higher and on deeper and more solid foundations the institution entrusted to our care, that it may ever be a blessing not only to ourselves and this community, but to all mankind.

On motion of Hon. Marshall P. Wilder, the thanks of the Society were voted to the President for his address, and a copy was requested for publication.

The President presented the following amendments to the Constitution and By-Laws, recommended by the Executive Committee:

Voted, That the thirteenth and sixteenth sections of the Constitution and By-Laws of this Society be amended by striking out in the thirteenth section the words, "He shall also act as Superintendent of the Building, subject to the orders of the Finance Committee, and shall attend to the care and letting of the same, and

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the collection of rents, and other income of the Society." And, also, in the same section, strike out the words, "He shall also act as Librarian under the direction of the Library Committee." And strike out in the sixteenth section, after the word "appoint," in the sixth line of the printed copy of the By-Laws, the words, "A Treasurer and a Secretary of the Society," and insert, after the words in the seventh and eighth lines of said copy, "Whenever a vacancy shall occur," the words, "A Treasurer, a Secretary, a Superintendent of the Building, and a Librarian of the Society, and define their respective duties, except where these are determined by the By-Laws."

The proposed amendment was read once and passed to a second reading by a unanimous vote; and, having been read a second time, was laid over until the stated meeting in April.

Hon. Marshall P. Wilder presented a recommendation from the Executive Committee that the Society invite the American Pomological Society to meet in Boston, in September next, and on motion of William C. Strong, the following vote was unanimously passed:

Voted, That the Massachusetts Horticultural Society hereby extends to the American Pomological Society, a most cordial invitation to hold its Eighteenth Session, on September 14th, and succeeding days, with the usual courtesies for their accommodation.

Mr. Wilder, as President of the American Pomological Society, accepted the invitation with hearty thanks, and stated that the invitation would involve no expense to the Massachusetts Horticultural Society.

On motion of John B. Moore, it was *Voted*, That the Executive Committee, in connection with the Finance Committee, be directed to carry out the recommendations in the President's address, concerning alterations in the building.

The Annual Report of the Committee on Vegetables was read by Charles N. Brackett, Chairman, and the Annual Report of the Committee of Arrangements, by John B. Moore. These reports were severally accepted and referred to the Committee on Publication.

William H. Spooner moved to take up the vote offered by him

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at the meeting on the 11th of December, 1880, and then laid on the table. The motion was carried, and it was

Voted, That the Prospective Prize of $40 for the best Seedling Flowering, or Foliage Plant (other than Rose, Camellia, Azalea Indica, Tree Pæony, Hardy Rhododendron, or Hardy Azalea), be awarded to Joseph Tailby for his Seedling Carnation, Grace Wilder, as recommended in the Report of the Committee on Plants and Flowers.

The following named persons were proposed for membership in the Society: J. Montgomery Sears, of Boston, and William Power Wilson, of Boston, by the President; John E. Russell, of Leicester, and John H. Moore, of Concord, by John B. Moore; and Edward Baker Wilder, of Dorchester, by Hon. Marshall P. Wilder. The President urged upon the members the importance of zealous efforts in adding to the membership of the Society.

Charles M. Hovey moved the appointment of a Committee of three, to procure a portrait of the President to be added to the series in the hall of the Society. The motion was unanimously passed, the question being put by Vice-President John B. Moore, who appointed, as the Committee, Charles M. Hovey, Robert Manning, and Joseph H. Woodford.

Benjamin G. Smith, Chairman of the Committee on Publication and Discussion, announced that the meetings for discussion the present season, would commence on the next Saturday, with the reading of a paper by William H. Spooner, Chairman of the Committee on Plants and Flowers, on the "Cultivation of the Rose," to be followed by a discussion.

Adjourned to Saturday, January 8.

BUSINESS MEETING.

SATURDAY, January 8, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, President Hayes in the chair.

The President announced the appointment, by the Executive

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Committee, of Edwin W. Buswell as Treasurer, and Robert Manning as Secretary, of the Society.

David Allan, of Belmont, was proposed by Charles M. Hovey, as a member of the Society, and Edwin Faxon, of Boston, by E. H. Hitchings.

Further time was granted to the Treasurer, to make his Report.

Adjourned to Saturday, January 15.

MEETING FOR DISCUSSION.

Immediately after the adjournment of the business meeting, a meeting for discussion was held, at which the following paper by William H. Spooner, Chairman of the Committee on Plants and Flowers, was read by the author:

Some Experience in Hardy Rose Culture.

In looking at a subject so extensive as Rose Culture, from the little spot which limits my own efforts in that direction, I can only offer hints which may be useful to the inexperienced, but can suggest nothing of special value to the professional grower.

It is generally supposed that to attain even a moderate measure of success in the rose garden, all advantages of soil, scientific appliances, etc., are essential, but the amateur will find very satisfactory results even when these conditions are not carried to great perfection. The soil of my garden is not particularly adapted for the growth of roses, being a light loam with a gravelly subsoil, yet from this apparently uncongenial source I succeed in growing a great many very good roses. I am not an advocate of the deep trenching or subsoiling system in the preparation of the ground, considering it entirely unnecessary.

My system of planting was very simple at the outset, the land being already in a good state of cultivation. First, preparing myself with a sufficient heap of well-rotted horse manure, the space assigned for the plants was covered with a portion of the compost, spread broadcast, and then thoroughly ploughed in. I may mention here that I have at other times made use of hen manure, mixed with about one-third soil, and consider it a good fertilizer for the rose. The ground was then laid out in rows three feet apart, and

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the same distance between the plants; the holes for their reception were prepared by throwing out the soil to the depth of one spade from each, and then throwing in two or three forkfuls of manure, thoroughly incorporating it with the soil to the depth of the spade, when all was ready for the plants.

My plants are all the so-called dwarfs, worked low upon the Manetti stock, which I prefer to the Prince's or seedling brier, as it seems better adapted to my light soil. I judge the latter stock may be better suited to a stronger or clayey soil; at any rate, all the plants I had worked upon it have died. My plants were imported, and not received until about the 10th of December, when the ground was closed, so that I was obliged to keep them in snug winter quarters, bedding them carefully into a frame, protecting them very closely with leaves, and covering the frame with boards. They came out in splendid condition in the spring, and were planted with hardly an exception to successful growth, which result has led me to prefer the spring for planting in our uncertain climate, and I have continued to make small experiments of the same kind yearly since my first venture. Having cut back the plant to two or three buds, the stock should be planted with the collar about two inches under the surface, and the soil pressed very firmly about it. Through the summer I apply guano to the surface occasionally—a handful or two to each plant, sometimes in a dry state, and sometimes in water. I use frequently, in summer, a top dressing of brewers' spent hops, strewn broadcast, not digging it in; it helps to keep down weeds, and has many advantages.

The rose, in a healthful, growing state, is a great absorber of water, and the free use of the hose morning and evening has been my most reliable assistant in promoting its health and in freeing the plants from insects. Every fluttering leaf of the plants seems to rejoice, as the cool water showers down upon it, and the clean, fresh foliage greatly enhances the beauty of the blossoms which it surrounds. But insects are ready to invade every domain of horticulture, and are especially destructive to the perfection of the Queen of Flowers; some of them may be overcome, but as regards the rose-bug or rose-beetle, I am in despair. The only remedy for this persistent plague that I have found has been the continuous application of the thumb and forefinger, and that with some severity.

It may be urged by some that the budded rose has entailed upon

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it the disadvantage of suckers, and endless care to prevent them; but actual experience proves this to be very slight. It is presumed that a lover of the rose is with his pets as often as possible, and these persistent thieves are easily detected and quickly destroyed. I cannot agree with those who claim that the maiden bloom is the best effort with the budded rose, as I am now growing plants on the Manetti stock which have been out eight years, and are producing as fine blooms as ever. The amateur wants results in the shortest time, and therefore must take the budded plant; if sunk deeply enough it soon becomes fixed on its own roots. Few of us can hope to rival the Madame Lacharme and Paul Neron of a Hayes, the Pierre Notting of a Gray, or the Horace Vernet and Charles Lefebvre of a Moore, but I am sure that the Manetti stock will give us an approximation to their high standards.

There is evidently a great difference in the constitution of hardy hybrid roses, as has been proved by success or failure under the varying influences of climate, soil, or stock, and as some results of my individual experience may prove suggestive, I append a list of a few which have been successful under my system of culture.

Abel Carrière.—Moderately vigorous; hardy; beautiful.

Alfred Colomb.—This superb rose is quite hardy and vigorous; its brilliant crimson flowers are unrivalled.

Beauty of Waltham.

Bessie Johnson.

Charles Lefebvre.—A very strong and hardy rose; flower large, and beautifully formed.

Comtesse d' Oxford.—Hardy, vigorous, with fine large flowers.

Coquette des Blanches.—A white rose, and a truly perpetual bloomer until late in the autumn; a remarkably vigorous grower, and has proved hardy with me until last winter, when it was killed to the ground.

Dr. Andry.—Hardy, vigorous, and a free bloomer.

Duke of Edinburgh.—One of the strongest and most hardy.

Dupuy Jamain.

Eliza Boelle.—Moderately vigorous; hardy, with a very delicate white bloom, shading to flesh color.

Emily Laxton.—Vigorous; of a climbing tendency; hardy, and very desirable.

Fisher Holmes.

Jean Goujon.

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John Hopper. An old favorite; hardy, and a very fine bloomer.

Jules Margottin.—Of vigorous habit; very hardy, and still one of the best.

Lord Clyde.—A remarkably strong grower, hardy, and a very good rose.

Mabel Morrison.

Marie Beauman.—One of the very best; moderately vigorous, quite hardy, with large and perfect flowers.

Miss Hassard.—Vigorous, hardy; delicate flesh color, very sweet, and a free bloomer.

Mme. Boll.—Perfectly hardy and vigorous; a free bloomer, and early; flower not the most perfect in form or color.

Mme. Gabriel Luizet.—Vigorous; hardy; a free bloomer, and I think may prove one of the best.

Mme. Georges Schwartz.

Mme. Rivers.—A fine rose; moderately vigorous and hardy.

Mme. Scipion Cochet.

Mme. Victor Verdier.

Mme. Vidot.—Moderately vigorous; hardy; flower beautiful, and perfect in form.

Mons. Boncenne.—A plant of good habit, very hardy and vigorous; the best of its class with me.

Paul Neron.—Vigorous and hardy.

Pierre Notting. Very hardy; of good habit, and a strong grower, but, alas! how seldom do we find a fully developed and perfect flower; a bright sun apparently scorches the petals in the bud.

Princess Louise Victoria.

Senateur Vaïsse.

Sir Garnet Wolseley. A thick, bushy plant, rather short-jointed, moderately vigorous and hardy; its large vermilion flowers and profuse bloom are very attractive.

Souvenir de Charles Montault.

Thomas Mills. Very hardy; a well-formed plant, of great vigor of growth; a very prolific bloomer; flowers very large. One of the best with me.

Triomphe de Caen.

Victor Verdier. Always good and reliable.

I will now name a few varieties that have not proved hardy, or have been weak in growth, and less satisfactory in general results in my experience.

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Cranston's Crimson Bedder.—This seems hardy enough, but is a very poor grower.

La France.—Almost invariably killed.

Louis Van Houtte.—Almost always killed. I only saved it one year.

Mlle. Bonnaire.—Very beautiful, and free in flower, but a poor grower.

Mlle. Eugénie Verdier.—A weak grower, although a beautiful rose.

Mme. la Baronne de Rothschild.—Usually winter killed nearly to the ground, and is never a vigorous grower.

Mme. Lacharme.—Very tender.

Prince Camille de Rohan.—Is *not* very hardy. I know this is not the general experience, but I have lost all my plants.

Mlle. Marie Rady, *Vicomte Vigier*, *André Dunand* and *Captain Christy* have proved tender.

The Moss Rose.—Turning now to the fairest of the Rose family, we are reminded of the poetic allegory which accounts for its added beauty, by supposing an angel to have found repose beneath its branches, and to have wished to bestow some gift in recompense, but to have been scarcely able to devise any addition to its charms:

> "The angel paused in silent thought:—
> What grace was there the flower had not?
> 'Twas but a moment:—o'er the rose
> A veil of moss the angel throws;
> And, robed in Nature's simplest weed,
> Could there a flower that rose exceed?"

I must confess to a great love for this fascinating class, partly for the reason that my light, well-enriched soil, with its natural subsoil drain of gravel, tends to bring it to full perfection, and partly because the delicate fragrance of the foliage is peculiar and unique. The ground for Moss roses should be prepared in the same way as for the hardy perpetuals, with a larger application of manure; and I also apply a more liberal annual summer dressing during the blooming season. I have always found the Moss rose more difficult to successfully transplant than any other, and it starts very slowly on its own roots.

All my Moss roses are worked upon the Manetti stock except

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the Common; these I prefer on their own roots. The varieties that have proved best with me are:—

Baronne de Wassenaër.—Perhaps the strongest grower of all; wood very dark and spiny, blooming in large clusters of buds; not as mossy as some other kinds.

Celine.—Hardy, moderately vigorous, spreading; foliage dark colored, leaves rather small; a profuse bloomer, bud rather soft, and not very double. It would probably force well.

Common.—The best of all; fine double flower.

Crested.—The next best; very double.

Gracilis, or *Prolific.*—This resembles the Common, but has a longer bud.

Laneii.—A vigorous, upright grower, and moderately free bloomer.

Perpetual White.—Moderately vigorous; color pure white; buds small and short stemmed, in rigid clusters of from four to six; foliage pale green, leaves crisped. Not very hardy.

White Bath.—With me the best white.

The so-called Perpetual Mosses seem to me a myth as Moss roses; they may be perpetual, but they possess very little moss, and the only variety that I have been able to save is Mme. Moreau, which is a perpetual free bloomer.

The few suggestions I have endeavored to present to you have been gleaned from personal observation in planting, tending, nourishing, and comparing, with results as here briefly stated.

Discussion.

Hon. Marshall P. Wilder, said that he came in specially to hear the essay by Mr. Spooner, who is a practical cultivator, as his ancestors were. Different soils suit different varieties of roses. He agreed with the essayist in regard to the beauty of the Moss rose, but thought Laneii the best of all. It roots freely, while Moss roses generally have few roots. Mr. Wilder stated that Mr. Thorburn, the New York nurseryman and seedsman, once returned an invoice of Moss roses because they had no roots. Mr. Spooner's soil may have been less favorable to the Laneii than the speaker's. The latter desired lists of the best roses, selected from the thousands on the catalogues, to save cultivating

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so many kinds; the lists to be composed of such proved varieties as Baron Prevost, John Hopper, Maréchal Niel, and Bon Seline, which hold on perpetually, and Safrano, which is the very thing wanted by the florists and connoisseurs. We are arriving at selections in other flowers, such as the chrysanthemum. In tomatoes, instead of the twenty kinds in cultivation, we want no more than four of the best. The first effort of the American Pomological Society brought down the list of fruits from thousands, to a selection desirable for every garden.

John G. Barker said that his experience in rose culture had differed somewhat from Mr. Spooner's. Six years ago he made two beds of Hybrid Perpetuals, for which he dug out the soil to the depth of eighteen inches, and replaced with a compost of equal parts of well decomposed sods, horse manure, and cow manure. The varieties were selected from the roses exhibited in 1872 and 1873. There were thirty plants in each bed, on Manetti stocks. The soil was naturally moist, and they were planted so as to root from the grafts. They made a most astonishing growth the first year, and the next spring were pruned severely, and the small wood was thinned out in summer. They made shoots higher than his head, which, when signs of growth appeared in spring, were pegged down to the soil. These two beds were solid masses of flowers; though not of the largest size, there were legions of them. He thought this the most satisfactory result, when, as in the present case, they were for the benefit of the public. Afterwards, he made two more beds in the same way, first making diagrams and marking all the varieties on them, for the instruction of the visitors to Pine Grove Cemetery, Lynn, of which he is superintendent. He has never had a rose-bug on his roses, though they destroyed a pelargonium bed not forty feet away from the rose beds. High culture and vigorous growth may have kept them away. He has never been troubled with the rose-slug. He goes over the bed with a scuffle hoe every two or three days; this keeps the ground moist and the surface does not bake after rain, as it does when raked. He adopted this method of culture because he is obliged to choose the cheapest way. He pegs down the shoots after pruning off twelve or fifteen inches of the end, and never covers them. Madame Plantier is one of the white June roses, but needs a little covering, which is a good investment, for it forms a mass of flowers. He has two bushes of the old-fashioned Red

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Moss rose in soil which has not been enriched for eight years, but they form masses of flowers.

Charles M. Hovey, said that for sixteen consecutive years, he took prizes for the best thirty hardy June roses. Many of the old roses of twenty years ago still take the prizes. Bon Seline, Maréchal Niel, Gen. Jacqueminot, and John Hopper, are all good, but have their defects. The best part of Mr. Spooner's paper is that in which he points out what have not succeeded with him. The speaker was the first to import the Madame Plantier, and had found it perfectly hardy, though it may be well to cover it in very exposed situations. The two things which the rose requires are the pump and the manure heap. Mr. Hovey thought the best English cultivators preferred roses on their own roots. All things, with rare exceptions, grow best on their own bottoms; grapes do best on their own roots. We must resort to stocks to rapidly increase the plants of varieties. There are some bad results from grafted roses — among others, suckers from the stock, which gain the ascendancy over the graft. He has a row of Hybrid Perpetuals, six or seven feet high, on their own roots. In selecting roses, we should choose kinds which will stand our hot suns. Mr. Hovey spoke in favor of the class of roses known in England as "decorative roses," — hardy, vigorous, and abundant flowering kinds; just what everybody wants, and not simply roses for exhibition.

William C. Strong had enjoyed Mr. Spooner's essay. He was surprised to hear such a young and progressive member of the Society as Mr. Hovey, opposing the introduction of new varieties, particularly since the wonderful progress of the past few years. In the English prize lists, there are few varieties of more than ten or twelve years' standing. It is a laborious process to weed out the inferior varieties. He dissented from the views of those who thought it needful to keep fertilizers to rot down; much ammonia is lost during this process. The rose is a gross feeder and will take fresh manure; moreover, it wants a heavy soil, and old compost is light and makes the soil light. In making a rose border in his house, he used green cow manure; the mixture laid two or three days and was turned over, and Manetti stocks were planted in the border in March and budded in June, and ripened eight or ten feet of wood. He had seen young roots of the Manetti stock strike into fresh cow manure. He would prefer fresh manure to

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old, but if he had had time when he made his border, would perhaps have turned it over a little more. He dissented from Mr. Hovey's views in regard to stocks; weak growers are vastly benefited by grafting. Tea roses are benefited by being grafted on vigorous stocks. Such stocks impart a vigor to weak growing kinds, which they can never get on their own roots, as the *Magnolia acuminata* imparts vigor to the smaller growing kinds grafted on it.

Mr. Wilder said that no one is more anxious than he for the production of new varieties. He carries all the time two camel's hair pencils in his pocket, to be always ready to transfer the pollen from one plant to another. He has repeatedly exhorted to sow perpetually to obtain new varieties, and if he could go back fifty or sixty years, he would practise this more than he ever has done. The world moves, and he wants to move with it; and no one admires the enterprise of the President and others, in introducing new roses and plants more than he; but he desires a consolidated list of such standard varieties as he had mentioned.

Rev. A. B. Muzzey said that he could not compete with practical cultivators, but he thought that the comparative value of old compost and fresh manure ought to be ascertained and settled in our discussions. Farmers used to let manure be exposed to the air, at an immense waste of ammonia, but they do otherwise now. He suggested experimenting with fresh manure, but would cover it with soil to save its fertilizing qualities. He remembered the two old roses, white and red, and questioned whether we had improved on them in beauty and fragrance. We should not throw away good things because they are old.

Mr. Hovey said that the best twelve Tea roses would include the Maréchal Niel and Niphetos. No white Tea rose comes up to Niphetos. Souvenir de Malmaison has never been excelled. It is the same with some of the old Hybrid Perpetuals. The old Moss roses are the best. Princess Adelaide is a good grower and a wonderful bloomer. He would adhere to the good old varieties, and while he would test all the new ones, he would not rely on them as garden varieties until they have been proved. He visited *M. Laffay* in 1844, and purchased the first Princess Adelaide Moss that came to America, and the first La Reines.

John B. Moore said that he could find no fault with the directions given in Mr. Spooner's paper. People find in books, direc-

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tions to make rose borders four feet deep, of half manure, like Mr. Gray's, but the speaker thought we could do better by following Mr. Spooner's method. When he (Mr. Moore) began cultivating roses, it was in a light soil which absorbed too much water. He objected to clay to make it more retentive, and preferred the strata of very fine consolidated quicksand found in sand pits. They are so hard as to require a pick-axe to break them up, but if spread on the ground they dry and crumble, and when worked into light soils make them permanently more retentive. He agreed with Mr. Strong that roses are gross feeders; they cannot have too much manure. In answer to Mr. Hovey, Mr. Moore said that it was not necessary to have the same things over and over again. Mr. Hovey thinks that roses are best on their own roots, but a large proportion will grow stronger on Manetti stocks. The suckers are so unlike the grafts that any but the most stupid person can distinguish them, and fifteen minutes will suffice to remove them from a large bed. He plants his roses in rows four feet apart; walking between the rows compacts the earth so that it will not absorb rain, and instead of a rake or scuffle he uses a French cultivator, drawn by a horse, to stir it. He earths up the plants in autumn. Baroness Rothschild kills down to the earth line. Madame Lacharme is worthless except to collect rose-bugs; they must be shaded; the bush will grow, but fails to give good flowers. In answer to an inquiry how new roses differ from the old, Mr. Moore said that many are more beautiful, and while few of the old roses bloom later than June, with the new ones we can have flowers from June to October, and a few roses in August, when they are scarce, are more desirable than many in June. He has three hundred varieties, but does not propagate above seventy-five. One will mildew; another may do both. Coarse strawy manure will lighten the soil more than old compost, and therefore should not be used. It is also objectionable as a covering, for if the wood is not well ripened it is apt to kill it, but after heaping up the earth ten inches high around the bushes in autumn, he covers it with manure, to prevent it from freezing and thawing, and throws coarse meadow hay between the rows. Cold weather will not hurt them. There are two sides to the question of ammonia escaping from the manure heap; it is not always ammonia that we smell there. He did not approve of rotting down manure generally, but did not believe in any great loss in doing it.

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Mr. Wilder said that our fathers did not appreciate the value of manure, as was shown by their laying it by the roadside to run to waste in the gutter.

President Hayes said that he had not so much experience in rose culture as many others, but he was satisfied that there is opportunity for progress. There is a future before us for the Society—for the rose, and for the rhododendron. Mr. Wilder and Mr. Hovey, in spite of loving old things, know there is a future of progress before us. We have all looked with great interest on the new varieties of roses exhibited, and he had ordered all the new kinds, because he desired to have the future of the rose fully illustrated. Many of the very new varieties have succeeded with him; few have been lost in comparison with the whole. Madame Lacharme stood at the head of those with which he took the silver cup for the best three varieties, and though he had to pick rose-bugs from the plants, he produced what was said to be the most beautiful rose exhibited in the hall. He mentioned his success with this variety to show what can be done with a delicate kind. In one place the soil produces perfection in one kind and refuses to give another, and this wonderful adaptation exists so that every one can bring forth something beautiful. The rose is a gross feeder, and will bear fresh manure, and perhaps cow manure is best of all.

Joseph H. Woodford said that though he had had but little experience he had carefully observed the methods of others. He thought Mr. Moore's method of protection best. The soil should be hauled away from the plants, and the manure in the trenches should be forked in in the spring. Most of the tender varieties may be preserved in this way. The speaker had seen a similar method used by John C. Chaffin, one of the best rose growers. He sifted long straw among the bushes, so as to afford partial shade in March and April, having found that the hot sun at that time spoiled the buds on the sunny side. Mr. Woodford read the following list of thirty roses, noted by him as the best in the exhibition of 1880:

Alfred Colomb,
Caroline de Sansal,
Charles Lefebvre,
Comtesse d' Oxford,
Dr. de Chalus,
Dr. Sewell,
Duc de Montpensier,
Duke of Connaught,
Dupuy Jamain,
Étienne Dupuy,
Exposition de Brie,
Ferdinand de Lesseps,

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Fisher Holmes,	Mme. Lacharme,
Gen. Washington,	Mme. Prosper Laugier,
Horace Vernet,	Mons. Boncenne,
Jean Soupert,	Mons. E. Y. Teas,
La Rosière,	Mrs. Baker,
Mabel Morrison,	Pierre Notting,
Magna Charta,	Sir Garnet Wolseley,
Mlle. Marie Rady,	Thomas Mills,
Mme. la Baronne de Rothschild,	Vicomte Vigier.

The above list comprises both old and new kinds, and one American variety. Any one can grow the good old varieties, but not one in a hundred can grow Caroline de Sansal or Madame Lacharme. We should grow both old and new, and select the best. Roses should not be pruned in autumn, for they are then more liable to be killed down, but the wood should be left on.

Benjamin G. Smith, Chairman of the Committee on Publication and Discussion, announced that the Schedules of Prizes for the year were ready, and also that the discussion of the subject of today would be continued on the next Saturday, after the adjournment of the Business Meeting. On behalf of the Committee he desired that members would hand in lists of what they deemed the best twelve, twenty-four, thirty-six, and forty-eight roses.

BUSINESS MEETING.

SATURDAY, January 15, 1881. at 11 o'clock,

An adjourned meeting of the Society was held in Boston in President Hayes in the chair.

The following named persons were appointed a Committee on the meeting of the American Pomological Society, to be held in September next, to act in connection with the Committee of Arrangements of the Horticultural Society: President Hayes, Hon. Marshall P. Wilder, William C. Strong, E. W. Buswell, and Robert Manning.

E. W. Buswell, Treasurer, read his Annual Report, including

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the Report of the Finance Committee, which was accepted and referred to the Committee on Publication.

The following named persons, having been recommended by the Executive Committee, were on ballot duly elected members of the Society:

J. Montgomery Sears, of Boston.
William Power Wilson, of Boston.
John E. Russell, of Leicester.
David Allan, of Belmont.
John H. Moore, of Concord.
Edward Baker Wilder, of Dorchester.
Edwin Faxon, of Jamaica Plain.

Adjourned to Saturday, January 22.

MEETING FOR DISCUSSION.

The subject assigned was the "Cultivation of the Rose," being a continuation of that of last week.

Charles M. Hovey quoted a statement by the editor of the Gardener's Monthly, in support of his objections to the Manetti stock for roses, and said that Jean Sisley, one of the largest French rose growers' uses only seedling briers and La Grifferaie as stocks. But for general purposes the speaker preferred them on their own roots. He presented the list of roses referred to by him last week as taking prizes in England, viz., Tea roses—Maréchal Niel, Solfaterre, Souvenir d' un Ami, Souvenir de Malmaison, and Niphetos. Hybrid Perpetuals—Pierre Notting, John Hopper, Paul Neron, Baron Prevost, La Reine, Gen. Jacqueminot, Beauty of Waltham, Charles Lefebvre, Marie Beauman, and Eugène Verdier.

John B. Moore said that he knows roses do better on his light soil, worked on Manetti stocks, than on briers or on their own roots. Any one who loves a rose can easily distinguish the suckers from the grafts, and remove them. Mr. Hovey left the impression on the minds of those present last week that he considered the old roses superior to the new; but the speaker thought there had been a vast improvement, and that if we made a list today, in three years we should be obliged to strike off many kinds. Mr. Hovey classed as new roses any introduced since 1860, but of those

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on his list of old kinds, the John Hopper was sent out in 1862, Pierre Notting in 1863, and Paul Neron in 1869. Good as the John Hopper is, it is more than equalled by many new ones. Mr. Barker's object in planting roses on Manetti stocks, with a view to their afterwards rooting from the graft, is to give them a start; but the speaker doubted whether they root much from the graft. He has plants on Manetti stocks, of eight or ten years' standing, and though his soil is not naturally adapted to roses, they make shoots of eight or ten feet in length. His remark, last week, that six roses in August are worth ten bushels in June had been criticised, but he did not intend it to be taken literally, but only to say that, while in June they are very abundant, in July, August, and September they are scarce and valuable. Some of the so-called Hybrid Perpetuals are perpetual, and some are not. Mme. Charles Wood will bloom itself to death. As the new growth comes out, it gives a new crop of roses. The Hybrid Perpetuals give as many roses in June as those which bloom only in June, and all the later blooms are so much advantage over the June roses.

In answer to a question, Mr. Moore said that the clay-like strata referred to by him last week as found in sand pits, are probably dried quicksand, though some farmers call it marl. Clay, when spread on land remains in lumps, but this falls to pieces. One of the first necessities of the rose is moisture; and the finer the particles of soil, the more retentive it is. His soil is naturally so light that all the water from an inch pipe would be absorbed before running a rod, but after being dressed with the substance which he described, the same quantity of water would stand in puddles or run ten rods. After getting a good soil and a supply of water, the next thing is plenty of manure, for the rose is a gross feeder. He could not afford such a border as Mr. Gray's, four feet deep and half manure, and did not think it necessary, and what the plants cannot take up is lost.

Mr. Hovey said that the subject under discussion was never tiresome to him. Those who grow roses for exhibition must proceed differently from those who grow them for their general effect. We do not want a few scattering plants of rhododendrons or pæonies—we want masses of them, and we want a feast of roses, even if every bloom is not up to the standard of perfection. Two or three plants of annual roses in his grounds, full of flowers, attracted more attention than any others. These are the kinds

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for those who wish to cut bouquets of roses. With the progress of improvement we shall get better roses, and many of the old ones will be discarded. Mr. Hovey said that instead of opposing the introduction of new things he had been one of the few to purchase every novelty of any merit, and had very dearly bought many worthless things. In planting two thousand pear trees he included among them only six Bartletts. La Reine is not excelled by any other rose of its color. Niphetos is in all the stands of twelve Tea roses. With one shoot of ten buds of a new rose we can make ten plants by budding, but the stocks will sucker and rob the grafts, and when we can get them on their own roots we should endeavor to do so. In Europe standard roses, grafted high, have gone out of fashion.

Mr. Moore said that Messrs. Cranston, Turner, and Paul, three of the largest English rose growers, prefer plants on the Manetti stock for all purposes. The Hybrid Perpetuals make as great a show in the garden in June as any, and we get the later flowers in addition.

Mr. Hovey said that M. Sisley does not use the Manetti stock. The speaker thought that such roses as the immense Paul Nerons, exhibited by the President, were rarely produced without heading down the plants so early that the first crop of flowers was sacrificed. He knew a gentleman at Newport, who has a large plot of Gen. Jacqueminot, which he thus heads down for the sake of getting fine late flowers.

William Gray, Jr., being called on by the President as the "champion rose grower," said that he understood the objectof the meeting to be to get lists of the best roses, but this was impossible at so short notice. We must grow many kinds for many years before we can decide on the best. In 1874 he thought Mlle. Marie Rady the best rose of the year, but he has not had one in a prize stand since. Pierre Notting was fine, but he has not had one in his prize boxes for years. The only object in testing the new roses sent out from year to year is to ascertain those worthy of cultivation here, which are but a small proportion of the whole. Those of 1877 have not been tried long enough, but are more promising than those of several previous years. If we make lists of roses which can be relied on we must include many of twenty years' standing. Nine out of ten of the new French roses are scarcely heard of after a few years. He would have his roses on Manetti stocks, to give

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them a start, and plant the stocks two inches under ground, when they would root from the graft.

Mr. Hovey said that Mr. Gray had presented actual facts which confirmed his views. We want kinds, both of fruits and flowers, whose characters are fixed and known. If any variety gives us roses only once in six or eight years, it is of little value. He agreed with Mr. Gray, that roses get started sooner on Manetti stocks.

Hon. Marshall P. Wilder commended the spirit in which the discussion had been carried on today. He agreed exactly with what Mr. Hovey and Mr. Gray had said. The Manetti stock is a wretched thief, owing to its profuse suckering. He desired to correct the impression which some appeared to have received, that he is not a progressive man. He wanted to put his hand on every new thing he saw mentioned in the newspapers, and obey the maxim to prove all things and hold fast that which is good. Few rose growers have Mr. Moore's peculiar soil, but he admits that manure is the great thing. The speaker expressed surprise that so few new roses had been raised in this country, where, under our bright sun, everything perfects its seed with ease; but we shall do it in the future. Ellwanger & Barry have crossed Hybrid Perpetuals with Tea roses, and he was glad to hear that Mr. Hovey had done the same. He exhorted all to go on and raise new roses, and then their names would go down to posterity fragrant with the results of their labors.

Mr. Hovey said that more had been done in this country in the way of raising new roses than Mr. Wilder's remarks would imply. He had lately been over the history of rose culture in this country for the last forty years, and had prepared an article on the subject for "The (London) Garden," beginning with a variety raised by Mrs. Herbemont, from the Musk Cluster, which has been one of the parents of all the improved Prairie roses. The latter were originated by Samuel Feast, of Baltimore, and Joshua Pierce, at a time which Mr. Wilder would recollect, when the Boursault was the only climbing rose. Joshua Pierce, of Washington, raised fifteen varieties. The Isabella Sprunt is a sport of Safrano, discovered by the Rev. James Sprunt, of Kenansville, N. C., some years previous to 1865. Mr. Pentland, of Baltimore, raised the George Peabody, a Bourbon rose. Prof. Charles G. Page, of Washington, raised the Cinderella, and others. William Boll, of

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New York, raised hundreds, if not thousands of kinds, most of which he sent to France. Among his seedlings were the Washington and Madame Boll. In 1877, came the American Banner, a sport from the Bon Silene. Mr. Hovey said he had thought lately of attempting to raise seedling roses, but the French are so far in advance of us, that he had done little for the last twenty or thirty years.

President Hayes remarked that the veteran horticulturist, Mr. Wilder, was himself a perpetual blooming rose.

F. L. Harris said that they do not grow a great many roses at Wellesley. The soil there is similar to Mr. Moore's, but they have not the fertilizers for rose growing. The speaker questioned whether Mr. Gray, and other rose growers, had not committed an error in forcing such luxuriant growth on their plants. He would concentrate the growth in the production of hard wood; and, with this view, he used when they started away from the bud, to rub off the strong shoots. This late, excessively vigorous growth does not ripen. Last year was the worst for roses that he ever knew, which was owing to the failure to ripen the wood the previous autumn. His experience led him to advise thinning out the wood.

William H. Spooner said that, a year and a half ago, President Gray exhibited very fine specimens of the Pierre Notting rose, and the only difficulty with this variety is that it is apt to burn.

Mr. Hovey thought it would have been well to speak of this discussion as of "roses for exhibition purposes." As long as we seek to grow roses for exhibition as big as a plate, we shall get only two or three from a strong shoot. We want plenty of roses, and the secret is in well ripened wood. These excessively strong shoots come "blind," and should be taken away when young. It is hard to divert the current of sap after it has got into one of them.

Mr. Wilder said that we want to preserve for all time, those roses which have proved their title to a permanent place, such as the old Yellow Tea, which has been known for nearly two hundred years, Bon Silene, Safrano, Dr. Andry, Baron Prevost, Maréchal Niel, and similar varieties, the last named of which, he said, would endure for generations. The Gen. Jacqueminot is not a rose of high character when opened, but for certain purposes it has a high value. A hundred thousand flowers of this variety are sold in a year. This rose has taken its place.

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The President gave notice that on the next Saturday, John E. Russell, Secretary of the State Board of Agriculture, would speak on "Tropical Fruits and Flowers," and expressed a desire that the community might be better informed of what the Society is doing to disseminate horticultural information by means of these discussions, believing that if the interest of the meetings were understood the room would be crowded.

BUSINESS MEETING.

SATURDAY, January 22, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, PRESIDENT HAYES in the chair.

The President announced the list of Special Prizes for Essays, offered by the Committee on Publication and Discussion for the current year, with the approval of the Executive Committee.

Adjourned to Saturday, January 29.

MEETING FOR DISCUSSION.

Agreeably to the announcement on the previous Saturday, John E. Russell, Secretary of the State Board of Agriculture, spoke on Tropical Fruits and Flowers. A severe snow storm prevented as large an attendance as usual, and Mr. Russell remarked that while he would have been pleased to see the room filled, he was surprised that so many persons were present. He feared that he should be unable to dispel the cold and gloom of the storm by stories of tropical warmth. "Who can hold a fire in his hand by thinking of the frosty Caucasus?"

Some time ago he spent several years on the isthmus which has no special name, extending seven hundred miles from Yucatan to Darien. This differs from any other part of the tropics. We speak of Southern Georgia and Florida as sub-tropical, and of the leeward and windward islands of the West Indies as thoroughly tropical, but all these are exposed to cold blasts from the north, which carry such a chill that in Cuba, where there was no fire except in the kitchen, and no means of keeping warm, he went to

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bed to escape the effects of a "norther." During the present winter, orange trees have cracked with the frost in Florida, and he had noticed the same thing in Louisiana—a damage, however, which is easily repaired. But Central America, south of Cape San Antonio, is beyond danger of cold blasts from the north. The waters of the Carribbean Sea are never chilled, and the climate of Central America does not vary more than five or six degrees; the lowest the speaker had noticed was 75°, and the highest in the shade, 82°. Here, we consider such a temperature agreeable and equable, and the speaker, when sweating on the hills of Worcester county, under a higher temperature, had longed for the tropical sun of Central America to cool off in. There, there is never a blast that can destroy vegetation.

Though the isthmus is only one hundred and seventy-five miles wide, it possesses a great diversity of climate. On the Atlantic coast it rains every day, while fifteen miles inland, the rainy season begins in April and ends in November. The rain does not fall incessantly, but so regularly every day that the hour can almost be fixed, and arrangements can be made for picnics or horticultural exhibitions without fear of interruption from the weather. These table lands are the inhabited lands of Central America. The speaker was much interested in the remains of ancient races found in these countries—cities, palaces, and hieroglyphics which could have been made only by a highly civilized people. In the depths of the forest the explorer meets the images of forgotten gods, and almost expects their worshippers to reappear.

The temperature of this region is about that of a conservatory here; and the luxuriance of the tropical vegetation language utterly fails to describe. A single plant will present the appearance of an enormous lilac or rhododendron, with gay bulbous and other flowers beneath, and vines over all, and orchids interspersed. The climate and soil produce indigenous plants of the greatest value to mankind, among which are maize and the castor-oil plant, which grow in the greatest profusion.

Mr. Russell next gave a description of particular plants, beginning with the pineapple. Few people are aware of the manner of growth of this so-called fruit, which is not a fruit in the common acceptation of the term, and botanically is described as a multiple or collective fruit, the constituent flowers having become sterile

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and seedless, and all their parts, along with the bracts and the axis of the stem, blending into a fleshy and juicy mass. The pineapples sold here, which are necessarily plucked before they are ripe, will not compare with those ripened and eaten in the tropics. They can be grown of equally good quality in hothouses here, and the speaker had seen in Covent Garden Market, London, as fine pineapples as ever were grown in the tropics—large, fleshy, thin-skinned and juicy. In the tropics every one can raise them, and they are exceedingly useful fruits. They may be said to be drunk rather than eaten. They are chopped in small pieces, and sugar, oranges, and lemons added, and some add cane rum or French brandy. As there is no ice there, the mixture is cooled by swathing the jar in which it is placed in wet woollen cloths and hanging it in a draft. The spirit extracts the juice of the fruit, and when it is sufficiently cooled, champagne is added, and then is the time to drink it.

The most prominent feature of tropical vegetation is the palm-tree. No trees are more valuable; none are more beautiful, romantic, and dreamy. The comparatively small plants seen in conservatories here can give but little idea of their beauty and grandeur. The cocoa palm is at once the most beautiful and valuable of all. When the seed is placed in the ground it springs up in the form of a long narrow leaf, the type of the monocotyledonous plants, and ultimately rises to a great height. A single tree the speaker had seen them a hundred and twenty-five feet or more in height. They have no branches, but blossom forever. A single tree will yield fifteen or twenty quarts of juice, from which palm wine is made. Besides the use of the fruit for food and other purposes, the leaves are used for thatching roofs, and the outer shells of the nuts afford fibre for cordage. Altogether, it is the most glorious and valuable production of the tropics.

The cocoanut palm is not indigenous in Central America. The most valuable indigenous production is the cacao tree, from the fruit of which chocolate is prepared. The description given by the Spanish discoverers, of the drinks used by the natives, indicate that this was early known to them. The cacao tree grows about as large as a moderate sized plum tree, and is exceedingly beautiful. They are raised in nurseries, and afterwards planted in orchards, and by the side of each a banana is set to shade the young cacao tree, until it is five or six feet high. Most tropical

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plants when growing wild, must spring up in the shade, and, consequently, when raised by art, they must have shade afforded them artificially. At intervals in the orchards is planted a tree called "madre de cacao," (mother of cocoa), a species of *Erythrina*, or coral tree. It sheds its leaves towards the end of the dry season, and during the wet season flames out into crimson flowers, resembling those of the gladiolus, and in such numbers as to completely cover the tree. It thus affords abundant shade during the whole year; and to give this shade to the cacao trees is the object in planting it. On the plantation of the Lacayo family, "Las Malaccas," the "mother trees" are old, and more than seventy feet high, and in May, the first rainy month, are all in gorgeous blossom. When these trees are seen from an elevated position, mixed with the green of the banana, a cacao orchard affords a sight, not merely of beauty, but of wealth. The flowers of the cacao tree itself are borne in bunches, and are of a delicate pinkish white. The trees are very infertile, producing only from twenty-five to thirty ounces of seed in a year. The seeds are borne in a pod shaped very much like a cucumber, and are embedded in a pulpy substance which is very pleasant to eat, and this is known to the monkeys, which give the proprietor of an orchard a great deal of trouble to protect his trees from them. No one here has ever tasted pure chocolate. No substance in the world bears so much extension; a very small quantity will impregnate with its flavor a great deal of arrowroot, or similar harmless substances; or fats, such as oleomargarine. The Nicaragua cacao is the best in the world. The French chocolate manufacturing firm of "Menier," acquired a large tract of land in that country for the purpose of producing it. The native method of preparing the cocoa, is by putting it in gourds six or seven inches deep, with some fine corn meal, and stirring it with a stick, when it rises above the mouth of the gourd in a foam stiffer than that of strong ale. It is almost always drunk cold. The word "chocolate," is derived from two native words, *choco* and *latl*, the former of which resembles the noise made by stirring the chocolate in the gourd—a very pleasant sound to hear when riding up to a house on a hot day—and the latter signifies "drink."

Coffee was introduced very early in the time of the Spanish occupation. It is cultivated in orchards, like the cacao, and the blossoms, which are always on the tree, have an indescribably

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delicious fragrance, so that a walk in a coffee plantation in a moonlight evening, is most delightful. It requires seven years from the planting of the orchard to get a crop. The seed is enclosed in a pulp like that of a cherry. Formerly this pulp was separated from the seed by hand after drying, but machines have been invented for doing the work, which have much reduced the price of coffee. Each berry has two seeds, which, as is well known, are flattened on the sides where they come together, like half a cherry stone. The so-called "male berry," is produced when one of the two embryos is abortive, and is raised on comparatively arid soils, at higher levels.

The cactus is always present in Central America — sometimes inconveniently so. It forms a positive fence, fulfilling the requirements of the western man who wanted a fence, "horse high, bull strong, and pig tight." No animal ever bites a cactus; sometimes they bloom magnificently, and some of the species bloom at night. A species of upright, columnar growth, is used to make corrals for cattle, and in an incredibly short time the stems crowd together, forming a solid wall a foot or two in thickness. If it is too high, the tops are cut off and then the plants bloom all over with gorgeous scarlet flowers.

In the great forests, under the shade of the trees, is the most wonderful display of air plants. They grow in every place where they can possibly fasten their roots on the tree. The speaker saw in a conservatory a short time previous, a plant valued at hundreds of dollars, which the owner told him had been in bloom for seven months; but, in that climate without a season, they grow with a vigor and luxuriance which cannot be equaled in conservatories. The vigor of the cactus is such that you can set bounds to the forest with it, and along the pathway between cactus hedges grow begonias and abutilons in the greatest variety and profusion. The portulaca, jasmine, and tuberose are common weeds. The fragrance is indescribably delicious. The vanilla, an orchid which is cultivated, and likes a cooler climate, but there are other species of that genus which grow wild, and when their seeds ripen they fall and decay, and add their fragrance to that of the flowers. But there is one tree whose fragrance overpowers that of the tuberose and jasmine; it is known as the "bedbug tree," and has an odor like that of ten thousand bedsteads. Fuchsias hang from the trees in great strings, and the speaker in passing under them had cut down thousands with his riding whip.

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But the most striking scene is when the convolvulus gets its opportunity. Some enormous mahogany, or other tree, becomes a prey to gigantic vines, which climb up and strangle it, and the tree dies but cannot fall, and becomes covered with great broad-leaved plants which root in its substance. But at length a tropic gale takes it over, and the ruins form a vast mound, covering perhaps an acre, among which birds drop convolvulus and other seeds, and if you walk out early in the morning you find it all alive and ablaze with blossoms, but in an hour the gorgeous show has faded.

Mr. Russell's lecture was warmly applauded at the close, and the President said that all had listened with the greatest interest to his description of tropical vegetation, which had carried us in imagination to those gorgeous scenes. He wished the audience had been larger, but said that all present would feel rewarded for braving the storm.

O. B. Hadwen moved a vote of thanks to Mr. Russell, for his able and interesting address, which was unanimously carried by a rising vote.

Benjamin G. Smith, Chairman of the Committee on Discussion, announced for the next Saturday, a discussion on the "Fruits best adapted for Market Purposes," to be opened by E. W. Wood, Chairman of the Fruit Committee.

BUSINESS MEETING.

SATURDAY, January 29, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. Francis B. Hayes, in the chair. There being no business before the meeting, it

Adjourned to Saturday, February 5.

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MEETING FOR DISCUSSION.

The subject assigned for today, was the "Fruits best adapted for Market Purposes." It was opened by E. W. Wood, Chairman of the Fruit Committee, who said it was unfortunate that the fruits of our cold climate should follow the glowing description given of tropical fruits and flowers last week. In assigning the subject of today, the Committee had in view its practical bearings, and no subject is more practical than this. A few years ago, the fruit grower here was sure of a market without competition, but now things have so changed that the cultivator must change his methods. The business of growing and marketing fruits requires as much brains as the business of a manufacturer or a merchant.

In considering the question what can be grown profitably, the advantages of location must be taken into account, not merely with respect to the character of the soil, but to the demand and supply, the nearness to market, and the facilities for transportation.

The apple is the leading market fruit, and though many farmers felt almost disgusted at the abundance of the last crop, the speaker believed that an outlet would be found for the superabundance by exportation to foreign countries. Two years ago, as Chairman of a Committee on Apple Culture and Exportation, he reported that exportation seemed to solve the problem of the disposal of our surplus apples, and the experience of the last year had confirmed this view. Mr. Wood here referred to the statement in the address before the American Pomological Society by President Wilder in 1877, that the foreign market for American fruit is now as well established as that for our wheat. Since the month of October last, there have been shipped to foreign ports, 396,000 barrels of apples, though few farmers will believe it.

Mr. Wood read the following paragraph from a late number of the Boston Herald: "There are plenty of apples in the market, and shipments are made every week for Liverpool or Glasgow. One of the latest circulars from Liverpool speaks of the apple as 'by far the most important article of green fruit this season.' The receipts at Liverpool in four months were 1,694,476, or more than half a million, barrels—nearly double the amount of any former exportation. The fact of the English crop being very small one has, of course, materially assisted the consumption, and it is an

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at this season American apples have been used
of England that have never before taken them.
hey have universally given will lead to a very
future years, no matter what the English crop
ought this most conclusive evidence that the
ommittee had been verified. Farmers planting
refully consider the best varieties for exportation.
in is the best known American apple in England,
ceed in New England, and in the last six years
ecome known in England. The kinds which the
ded most highly for exportation, were the
bardston Nonsuch, Rhode Island Greening,
bury Russet, and these five kinds are also the
market. Mr. Wood referred to a statement
liscussion two years ago* in regard to a gentle-
England 750 barrels of Baldwins and Hubbard-
ed a net price, after deducting freight, of $1.50
ardstons bringing most, and who intended to
ore trees of the latter variety. This last year
n exported 2000 barrels, of which the first ship-
econd week in September, brought $2.50 net,
ipment, $2.40. The second quality brought
l asked: What can be grown more profitably
e prices?

be a farm crop. Those whose land is taxed for
e cannot afford to grow apples. Large cities
ms for their supply. The apple is the easiest
. Most apples are grown in mowing fields, but
be grown in grass under peculiarly favorable
roadsides for instance. The roots of the grass
ressing that may be applied. An orchard does
land; rough and springy hillsides make the best
on a southerly hillside gets more air, light, and
el ground. The trees should be planted when
bud, and the ground should be cultivated with
or eight years, and should afterwards receive
ngs of manure, and should be kept light. The
alternate years. The best fruit in an orchard
ide rows.

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nsactions for 1879, Part I, page 67.

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The pear is next in importance to the apple. It is impossible to add anything new in regard to the best varieties, but new cultivators appear every year who ask what varieties are most desirable. To such the Society furnishes much valuable information by its exhibitions, and it can do no more important work. Novices should look over the published TRANSACTIONS, and see what varieties are most highly recommended. Many varieties growing under particular circumstances become favorites with amateurs, but the list of varieties desirable for market may be reduced to a very small number. From his own experience in growing pears, and from observation of the exhibitions of the Society for fourteen years, the speaker recommended the Clapp's Favorite, Bartlett, Sheldon, Beurre Bosc, Beurre Clairgeau, Duchesse d'Angouleme, and Beurre d'Anjou. The Clapp's Favorite is the earliest kind which can be considered a market variety, for though there are earlier kinds they are too small for market. Within the last five years it has suffered from blight. The Bartlett is too well known to require anything said of it. It does not suffer from blight. The Sheldon is comparatively new, of excellent quality, a strong, vigorous grower, and, though formerly subject to cracking, has lately been free from it. The Beurre Bosc is growing in favor for market. It is a free grower, and bears large, fine, handsome fruit. The Beurre Clairgeau meets many objections. No one would think of putting it on a list for amateurs, but it is a strong grower, and one of the largest and handsomest of all pears, and meets a specific market among the first-class hotels and restaurants, bringing there as high a price as the Beurre d'Anjou, but the hotel keepers prefer it to that variety, because it lasts longer on the tables. It is largely planted by the Revere growers. The Duchesse d'Angouleme, Mr. Wood said, he would discard sooner than any other on the list. The best specimens are from trees on the quince stock, and it requires a moist, strong soil, such as is suited to the quince. It must have higher cultivation, and more food than any of the others named. Of the Beurre d'Anjou he said it was unnecessary to speak in the presence of Mr. Wilder, who introduced it into this country.

If greater variety is desired, the Beurre Hardy, Seckel, Doyenne du Comice, Dana's Hovey, and Vicar of Winkfield may be added. Beurre Hardy is a good grower, and the fruit is fair and handsome, and of good quality. The Seckel is the standard of quality. To

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cimens the fruit must be thinned thoroughly; wenty Seckel trees in full bearing, he will have thinning them. The Doyenne du Comice is not auty, or quality; the only question is in regard ss. Some growers have found it one of the ieties. It is grown more largely at Worcester peaker had never seen trees more handsomely this variety there. Like the Bartlett it forms he extremity of the shoots. To Dana's Hovey jection as to the Seckel. The fruit grows in thinned they become, in the words of Charles Seckels." The Vicar of Winkfield sometimes per bushel, but not often. The fruit needs oes not take so long as with smaller varieties. wer, and makes an excellent stock for grafting The Beurre Clairgeau was mentioned particu- when thus double-worked. One large grower undred trees of the Vicar, most of which he us the farmers in Sherborn set out Baldwin ft with the Roxbury Russet, finding they can e time it takes to rear one from the nursery.

ars many peaches have been exhibited here, been remunerative, and it is probable that an ber of trees will be planted the coming spring. e the best varieties, and the speaker suggested t produce improved varieties by planting the inds. A large proportion of the trees are ows, the first indication of which is the high ripening of the fruit, before the disease is The buds and seeds carry the contagion, ting by either, care should be taken that they althy trees.

reme northern boundary of the grape region, ngthen the season by choosing the most favor- e growth of this fruit. Dr. Fisher, the lead- ket, says that by means of a southern aspect, ntage of a climate two hundred miles further eligible for market culture are very few. At oncord, of which Dr. Fisher says that if it ape culture for market would cease here.

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Moore's Early, though not tested in all soils, has been sufficiently cultivated to come next. The speaker had seen it for the last six years, though not under particularly favorable circumstances, ripening two or three weeks earlier than the Concord, and equally as good in quality. The only question in regard to it is whether it will do as well under all conditions. The Worden is not tested here so much as west of us; at Worcester it is grown more than any other kind, and is large and handsome, and said to be as early as Moore's Early, and not to mildew. Other new varieties are being introduced, and the speaker thought we must look for improvement in pure native seedlings, and not in hybrids. The latter will do for amateurs, but not for market. There is not a single hybrid that does not suffer more or less from mildew. Many persons will be deceived by the favorable season last year, and plant them, but they will be disappointed three years out of four.

In strawberries also, the amateur may indulge his bent, while the grower by acres will select carefully. The Charles Downing stands at the head of the list for market; the plants are vigorous and prolific, and the fruit is of good size, and the second and third pickings hold out in size. The Wilson, which for the last ten years, or more, has been most reliable for money, has lately failed in some localities, and now stands second. Few persons who buy their strawberries have ever eaten a ripe Wilson. When fully ripe, it is of a very dark crimson color, and of fair quality; before it is ripe, it is bright scarlet, and it is picked then. It has size, color, and form, and bears transportation well, and will grow anywhere, and produce more on light soils than any other variety. The Seth Boyden (Boyden's No. 30), may be placed next, though it has not been so generally grown as the two preceding. After the first picking, the best berries are gone; there will be good ones in the second and third pickings, but not as many as with the Charles Downing or Wilson. The only new variety named by Mr. Wood was the Sharpless, which as yet has been shown here only by the Arlington and other cultivators, who grow everything well; but all indications point to it as the most promising new kind. It is said to be among the most prolific. The Crescent Seedling is recommended as growing anywhere, and as a weed-killer, which is undoubtedly true, but in quality it is inferior to the Wilson, and that of the Wilson is as low as the Fruit Committee dared to go.

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ays command a ready sale at good prices. The in their cultivation is in carrying the canes t. The Dorchester and Kittatinny are two of er is the hardier; though it winter-kills some, plenty of canes left.

as seen here, Mr. Wood recommended the and Herstine. The first is well known. Some ion to the Clarke, but he had seen the best ariety. A neighbor sold six hundred dollars' of an acre. The Herstine is new and prolific, best price.

over the list of fruits recommended, Mr. Wood ive fact that four out of the five apples recomes of New England, and that three of these chusetts. Of the twelve pears named, four are , and two of these are from our own vicinity. it we should look for improvement in native an in foreign varieties.

nd practice of fruit growing afford a great deal as profit. All who have engaged in it will owning, that, "fine fruit is the flower of comnost perfect union of the useful and the beautiknows. Trees full of soft foliage; blossoms eauty; and, finally, fruit—rich, bloom-dusted, is—such are the treasures of the orchard and gly offered to every landholder in this bright emperate climate."

Discussion.

Wilder said that he had been exceedingly inand practical remarks by the Chairman of the d agreed generally with his views. The subhe hardly knew where to begin. Thirty years ch to fruit growers to raise native seedlings, n locations, quoting the advice of Van Mons ." For thirty years the Newtown Pippin comprice for exportation, but now there are a hunted to one Newtown Pippin. Everywhere, , the Baldwin receives the highest marking, hers as good.

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Mr. Wilder said that he had had more experience with pears than with apples. As we progress, the list of the best varieties will change. He thought he had had more experience than any other person with Clapp's Favorite. It was said by some to rot at the core, and it made him indignant to hear it. If it did it was caused only by the want of care and skill on the part of those who make the complaint. They do not realize how early it is, and do not pick it early enough. Here, it should be picked by the 15th of August. All early pears must be picked before they are ripe. The Sheldon, Merriam, and Buffum are valuable market pears, but not one of all the thousands of varieties imported has come up to the Beurre d'Anjou. It had been his most profitable variety the last season, bringing $2.50, $2.75, and $3 per bushel, with the last sales at $6. After the Bartlett, in value as a market pear, comes the Doyenne Boussock. It is a vigorous grower, and makes an amazingly large tree. He picks one half early — before they are fully grown — and ripens them off for market, and those left attain a fine, large size. The Buffum also should be picked early; he picks half his crop the first of September. When thus treated it yellows finely, and is just the size for market, and was pronounced by A. J. Downing nearly as good as the Seckel. He has trees of this variety that produce an average crop of not less than five barrels, and one tree has borne twenty-two bushels. He has had the same experience with the Merriam; and Mr. Hovey, who formerly differed from him in regard to the value of these fruits, has come round to his ideas. Merriams, picked early, are luscious; if not picked early they become yellow, with a red cheek, and hang on the tree; and though they grow larger, they get a little mealy. This and the Buffum are both natives. Mr. Wilder said he could do nothing with the Duchesse d'Angouleme, but Patrick Quinn, of New Jersey, raised two thousand bushels last year, for which he expected to get five dollars per bushel; and a gentleman at Brighton had four hundred bushels. Taking the country through, it is the largest market pear, and one of the most popular.

Mr. Wilder said he had often been called to account for saying that if he could have but one pear, he would plant a Vicar of Winkfield; but this was many years ago, when we had fewer varieties than we have now. All agree that it makes one of the most beautiful trees. He had one tree that produced five bushels, which were in eating from October to April. The late Samuel Walker, who

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ı Chairman of the Fruit Committee of this
ıe same views, and Mr. Hovey considered the
valuable. They had sold for ten dollars per
brought three dollars per dozen; but the tree
ıuce such. This was thirty years ago. Dana's
rican variety, and the Seckel, are preëminent
ıt the world. We may get larger varieties of
›y sowing seed. The Doyenne du Comice has
ith the speaker, but when it has once fruited
a fruit bud again on the same spur, and the
le to be killed.

l from Mr. Wood in regard to foreign blood
nbered when hybridization was first practised
of the persons who then laughed at it now
ıence. We do not want too much foreign
ɜ native. He had never seen a grape—not
ıbsolutely untouched by mildew, but he had
injury on the Wilder, Lindley, or Massasoit.
has one-quarter foreign blood, has never mil-
ĸ years. There is nothing but is subject to
›ns, and we must have regard to these facts.
;rape for the million; Moore's Early is two
ıe vine is of great vigor, and the speaker
ɜ of better quality than the Concord, and
·ange. Half a million barrels of apples have
›ston the past season, and we shall soon send
.s apples. The early varieties may be grown
rvey Davis is one of the most promising
ɜscent Seedling is pretty good to eat when
else, and it is a pistillate variety which may
a valuable race, possessing the same hardi-
ɜtiveness, with better quality. The speaker
ots of Crescent Seedling, Hovey's Seedling,
eties, which he intended to fertilize with the
hybridization can be practised by every one,
sands of new fruits by its agency.

;ht the list of apples presented by Mr. Wood
The Roxbury Russet is peculiar in its wants,
›n his own grounds; the fruit is apt to be
tiff soil. The Gravenstein is universally

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popular. The Hubbardston Nonsuch is also peculiar; but, unlike the Baldwin, it will grow anywhere. The original tree, which the speaker had visited, stood in an orchard of natural trees, on a west slope in cold, wet, springy land, and it will succeed in such land, while the Baldwin and Hunt Russet will not, and on warm soils also. It is not adapted for exportation, because it is in use only a short season. The Hunt Russet originated in a warm soil. Fruits originating on such soils require warm soils to grow in, while those originating on cold soils will grow anywhere. The Hunt Russet is one of the hardiest varieties. The Rhode Island Greening has something the same traits as the Roxbury Russet, and wants a clay soil. Mr. Moore thought Mr. Wood's list of pears a good one, except the Vicar of Winkfield, which is only a cooking pear. The tree is beautiful and vigorous, and the fruit looks well in the box or barrel, but does not taste well and does not sell well.

Mr. Wilder remarked that the Massachusetts Agricultural Club had a plateful of Vicars placed before them, which they thought as good as any variety.

Mr. Moore replied, that Mr. Wilder, in speaking of the Vicar, put in a qualification which he did not. He had had a crop of fifty bushels. You may sell them to a man once, but you cannot a second time. The Buffum is the same; the tree is beautiful and productive, and the fruit is not the worst that ever was. Dana's Hovey has only one fault—it is not large enough. The tree makes stout, stubbed shoots, but does not extend rapidly. If planting only six pear trees, he would have one of them a Dana's Hovey.

Mr. Moore agreed with all that had been said of the value of native fruits. He had seen the Wilder, Massasoit, and Barry grapes mildew to such an extent that the crop was spoiled. The solid, substantial improvements in grapes have all got to come from pure natives. He did not know much about the habit of the Worden, but thought it promising.

Miner's Great Prolific is one of the most promising new strawberries; one-third of Mr. Moore's planting last year was of this variety. It is not as soft as the Charles Downing. He has a far better opinion of it than of the Sharpless; the first berries of the latter are large but homely and tasteless. The Wilson is grown largely at Concord, but it is going out of favor. Mr. Moore cannot grow them on his low land, but can on the hill. They bear

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etter than any other variety. The fruit is picked
efore it is ripe. Some people think it is one of
erries, but it requires two boxes of sugar to one
h the Seth Boyden has been in cultivation many
much hold on market growers. The Crescent
nd of poor quality.
Thornless blackberry has been planted by grow-
's neighborhood, and is succeeding. It is pretty
. The Kittatinny is more hardy than the Dor-
Wachusett more hardy than the Kittatinny. He
achusett to be winter-killed, though Mr. Hadwen
not come up in size, but there may be a hardy
ruit grown from it, as the parent. Mr. Moore
had improved the blueberry and huckleberry.
ueberry has long racemes of flowers, as beautiful
of the valley, and is more beautiful as an orna-
many that are planted for ornament. He had
never succeeded in making it vegetate.
gested scalding the seed.
wished to stand up and commend Mr. Wood's
He had never heard one that he could take so
and so concisely expressed. He thought the
bined more good properties as a market apple,
d by Mr. Wood. It is of fine quality, keeps
as the Baldwin, and outsells the Baldwin in
lar per barrel. It originated in the town of
outh of Worcester. The Palmer Greening or
resembles the Newtown Pippin, and is the
variety. It is in good eating condition from
Mr. Hadwen commended the Wachusett
taken the highest prizes in his section; is per-
erfully productive—more so than any other
h not so large as some, is large enough, and the
gh.
y said that he had never made a business of
uits. He did not want it to go out from the
it Committee of this Society that the Wilson
eat at all. He supplies his neighbors with a
haps two or three hundred boxes, and in two
w Wilsons were sent, and nobody wanted them

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a second time. It is only valuable for cooking. One of the Fruit Committee thinks the Merriam pear is not worth eating, but Mr. Hovey could not agree with him. About twenty-five years ago, the late William B. Kingsbury brought him the first specimens he had ever seen, which were not good; the next year they were nearly first-rate, and he grafted twenty-five or thirty trees, and wishes now that he had grafted more. It will sell better than the Beurre d'Anjou. The first time he saw the Sheldon it was brought to the meeting of the North American Pomological Convention, at Buffalo, N. Y., in 1848. It was pronounced by Patrick Barry, and others, the Gray Doyenne, but he ascertained the history of the tree, and was satisfied that it was new. He procured some scions, with which he grafted three hundred trees. He then thought it the finest pear he ever ate in his life, and there are few that equal it today. The Vicar of Winkfield will bring two or three dollars per bushel, in a scarce year, if the specimens are good.

Mr. Wood replied to Mr. Hovey's criticism on his recommendation of the Wilson strawberry for market, that we could not ignore a variety sold to a larger extent than any other.

Benjamin G. Smith remarked that the King of Tompkins County apple is highly esteemed in London.

Mr. Wilder alluded to the Pocklington grape as a new variety, giving promise of value for market. It sprang from a seed of the Concord, saved and carried home by a lady. The vines in Mr. Pocklington's grounds ripened their wood and shed their leaves so early that he pruned them on the 15th of September.

President Hayes said that George S. Curtis, one of the largest dealers in fruit in Boston, when his advice as to the best apples for a market orchard was sought, recommended half Baldwins, and Gravensteins next; but on second thought advised three-quarters Baldwins, and then went on discussing until he concluded that it would be best to plant all Baldwins. The Baldwin is the best stock to graft other varieties on, and it is easier to cultivate the ground under the trees than under most kinds. Large orchards in Western New York have been planted wholly with the Baldwin, on Mr. Curtis's recommendation.

It was announced that on the next Saturday the question, "How shall Southern Competition in the Small Fruit Market be met"? would be discussed, and the desire was expressed that it should be

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ings are open to all, and that all inter-
ested are cordially invited to attend.

IESS MEETING.

SATURDAY, February 5, 1881.

f the Society was holden at 11 o'clock,
s B. Hayes, in the chair. No business
it
February 12.

FOR DISCUSSION.

today was "How shall Southern Com-
Market be met." The President called
who said that he was wholly unprepared,
hesitation, but expressed the view that
in a determined spirit. We can grow
s the Southern cultivators, and though
p class of labor, we can also produce
een said that apples do not pay, and if
ere as valuable as that of some, they
the right locations, away from cities,
r a prospective value, and with suitable
at a fair profit, at a dollar and a half
fruits,—if we set about their cultiva-
an produce them at a profit. But it
lly, and too large profits must not be
e a local value, for they cannot be sent
No other small fruit bears so high a
ere. If we put brains into our work,
its per quart which raspberries bring,
Cultivators must put as much thought
s and manufacturers do into theirs.
at the subject of discussion was one in
interest. He agreed with Mr. Strong
He had cultivated strawberries, rasp-
at Concord, and had found them all

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profitable. He had discovered some points in the cultivation of raspberries, which if he had found them out sooner would have been of great value to him. He had them planted on a hillside where they succeeded well, and afterwards set them on a flat at the foot of the hill, where the soil was better, but was much disappointed to find the result very poor there. He thought they should never be planted on low, flat land. This land was not wet; water would not stand there. In raspberry culture we are free from the competition of a Southern crop, but the liability to rainstorms, at the time of picking, is a drawback. The storms are particularly injurious when they occur the last of the week. Mr. Hunt thought raspberries must be still more profitable nearer Boston. The land where he raises them at Concord is worth about one hundred dollars per acre. He covers all his in winter, and does not believe there is a red raspberry in existence that will stand severe winters without covering. The Franconia is the best variety; it possesses the firmness which is necessary to a market berry. He had tried other kinds but discontinued them soon. Some raspberries will endure some winters, but none will stand hard winters. He thought some winters would kill the wild raspberry.

The growth of his raspberries was not more luxuriant on his flat land than on the hillside; the latter was moist, but well drained. The canes in both fields were killed if not covered. On the low grounds the buds were killed when they were uncovered, and the tops were mostly killed. The crop never more than paid for the year's cultivation. On the hillside he never failed to get a crop. Although his raspberries failed on the flat land, one of his neighbors has always been successful on similar land. The frost may have taken his before the wood was ripe; they retained their leaves longer than elsewhere. It is not so much labor to cover raspberries as people suppose.

Strawberries raised here come in competition with those grown at the South; still, Mr. Hunt thought they could be raised here at a profit. He thought farmers near railroad depots could cultivate them to advantage. For two years he kept an account of the expenses and income of his strawberry patch of seven-eighths of an acre. One of these years, which was the best he ever had, it produced a trifle over nine hundred dollars' worth, while all the expenses were included in four hundred dollars. The variety was

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glad to hear a good word spoken for it last
) it was the only variety from which he got
doubt there are many better ones now,—it
t is hard, so as to carry well. The berries
rains. Growers are obliged to pick them
The Charles Downing, under the same cul-
oduced only one dollar's worth where the
. The Wilson has gone out of favor at
e largest growers still adheres to it. Last
s, but the plants were weak, and made few
say whether it had run out, but he meant
and see.
ated the Kittatinny blackberry, and had a
nce in from two to four years the canes are
asons it bears a moderate crop at the usual
second crop; it is not profitable then. He
achusett, but has seen it; and though the
ıks it will bear more quarts than the Kitta-
ssachusetts farmers can grow blackberries
get a hardy one. It is impossible to cover
o meet Southern competition, it must be by
improved culture. The most serious diffi-
) pay the highest prices for labor—ten cents
l children—and it is difficult to get at that
ve out Southern competition, but we can

ilder wished to inquire what the Southern
ıave to meet.
id that it was mostly in strawberries and
ttle in raspberries. Few of the last arrive
e the Southern blackberries furnish almost
thought that from one-half to three-quar-
sold in Boston market came from south of
ater part of these are Wilsons, and this
by those in this State who have to send
) market. Florida berries should be here
sent to New York. The price depends on
ıy come in good order for three or four
rill be a bad spell, and they will average
irty-three and a third per cent. less for

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Southern and New Jersey fruit. The "native" berries ripen rapidly in warm weather, and sometimes Connecticut berries come in bad condition.

Mr. Wilder thought the Southern competition was not injurious, but beneficial. We get strawberries from the South a month or six weeks before they are ripe here, and though the Wilson and Nunan are not much esteemed, they are acceptable in the absence of better. They do not command as high a price as those grown here. The speaker thought it a great advantage that we could have these early fruits, and they create an appetite for our own when they are ripe. The prolonging the season is very desirable, not only with respect to the strawberry, but other fruits. The new strain of peaches lately introduced has lengthened the season of that fruit, and it is desirable by scientific means to raise varieties of that and other fruit which will prolong the season still further. Peaches are sold for a cent each here which would cost sixpence each in England. The case is the same with blackberries as with strawberries; we can get them from the South a month earlier than we can raise them here. We can compete with the South in this fruit also if we plant them, but no one here has planted them by the fifty acres, as is done at the South. The Snyder blackberry is very hardy,—the speaker had never heard of its needing protection,—and it is an enormous bearer. The Wachusett Thornless is very nearly hardy. All can be made to stand the winter better by nipping the canes when three or four feet high, and, if the laterals grow too strong, nipping again. The Dorchester and Lawton never fail with the speaker; they grow by a fence without cultivation. We cannot change the order of nature; we cannot get a grape ripe here by the first of August, but we can have them from the South at a very moderate price.

The Franconia is the best of the red raspberries. Mr. Wilder related the history of the introduction of this variety as follows: Two plants were sent to the late Samuel G. Perkins, by Vilmorin & Co., of Paris, forty or fifty years ago, and from these all the stock in this country and Europe has been derived. In the same way the Knevett's Giant was received by Mr. Wilder from Chandler & Co., of Vauxhall, England, and neither of these varieties is known in Europe, except as received from this country; Messrs. Vilmorin, knowing nothing further of the Franconia, nor Messrs. Chandler of the Knevett's Giant.

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apes will survive the winter they are better
indley (Rogers's No. 9) has been grown in
(No. 4) can be grown for market, and the
to be adapted to cultivation for market.
y is hardly fit to eat, unless we get it before
e. It has been a question whether we shall
supplant it, but the speaker fully believed
e an abundance of varieties of good quality,
or market. It would be ridiculous to think

hought that the low price of strawberries
s here. At Dighton, in this State, where
grown, they average only eight cents per
These do not come in competition with fruit
than Connecticut. He thought people got
uits before ours come into market. The
he hardiest blackberries, but it wants high
Miles, of Concord, has a field which is very
a better quality of peaches than we receive
are not equal to those grown here. Peaches
y here; at Groton, peach growers are suc-
d G. & H. Whitaker, there, are successful,
h Concord grapes. The speaker had never
ches in Missouri than he had seen grown in
Mason, in that State, there is a fine orchard
ct; others have a southerly aspect. At
Uncanoonuc mountains, peaches have not
and the peach crop is considered the best
ones bring good prices for preserving; if
n, it is the Crawford's Late. The land at
feet higher than here. At Lyndeborough,
arles Holt is successful with peaches, and
awba grapes successfully, but this variety
he Concord.
marked that peaches are grown success-
nklin county, Mass.
l that one point in favor of the raspberry
because it retains its peculiar flavor better
he Philadelphia is especially desirable for
of its fine color when canned. A grower

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at Lawrence, cultivates this and the Wachusett blackberry largely, and his fields of the latter form a magnificent sight. He disposes of his surplus fruit by canning, and has found it profitable. Mr. Richardson thought the Dighton growers should ask a fair price for their fruit; they send it in as the season for Southern fruit is closing, and it sells at low prices, which establish the price of all the fruit grown here.

President Hayes said, that as a director of the Old Colony Railroad, he had been astonished at the wonderful quantity of strawberries grown in Dighton, and the extensive arrangements required by the railroad company to bring them to market.

Dr. E. L. Sturtevant thought that one of the duties of the friends of horticulture, is to educate the public to discriminate between the different varieties of fruit, and to give higher prices for the better qualities. If we can educate the people to appreciate the quality of the Triomphe de Gand strawberry, the growing of that variety might become profitable. The Society should make some effort in this direction. He had seen finer blackberries in the woods in Maine, than he had ever seen in cultivation. They always grew in the shade. He spoke of one field of wild blackberries, sheltered by alders, which was fenced in, and formed the most profitable part of the farm. His first appearance in print was when he sent a wild blackberry three and one-eighth inches long, to the editor of the Farmington Gazette. We can cultivate these varieties or produce new ones, but he was under the impression that all the kinds now cultivated in our gardens were no better than some to be found growing wild.

Mr. Wilder said that the finest wild blackberries are found in the borders of the forest. When the Improved High Bush blackberry, now known as the Dorchester, was exhibited before this Society, in 1841, by Eliphalet Thayer, of Dorchester, who cultivated it in his garden, he went the same afternoon with the late Cheever Newhall to see the fruit. Dr. Sturtevant's impression that the garden varieties were found growing wild, is correct, with regard to most varieties; but three kinds, the Orange, Warder, and Wilder, were raised in the West by a Mr. Orange, about twenty years ago. They were not of good color, and have not come into cultivation.

Mr. Curtis thought it was for the advantage of growers here to have Southern fruit in the market, as it produces a desire for our

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grown here are no better than Southern
provision dealer more than forty-eight
a particular mark means good or poor
l is engaged two days in advance, the
waiting for the hawkers. The taste of
ted; there seems to have been a great
or two, and a demand for the Sharpless
e berries. If the arrivals are largely
nd see what comes by the next train.
ght the question before the meeting not
ern small fruits go out before ours come
se a good many, and he finds that when
' he has to pay a considerable advance.
stomed to having fruit, and when ours
ıy. The case is the same with peaches,
natives are higher. Southern grapes,
ıg before ours come. Blackberries are
, because we do not cultivate largely.
our detriment, but to our advantage.
ıere are two points from which to view
of the community, and as growers of
point of view Mr. Wilder is correct in
ompetition in small fruit an advantage.
r who formerly got twenty-seven cents
ies, now has to sell for sixteen, but he
f eleven cents. He thought the price
e twenty-five per cent. through the intro-
les. When the market is glutted the
ınd have to take Southern prices. The
ality of our fruit such that the South
y with it.
ves the time is coming when we must
as well as of manufactures, so that all
sending forced flowers South already,
re of small fruits on as large a scale as
ı raise them as cheaply. The differenc e
cents is profit enough for Mr. Talbot's
try how much money we can get out of
ect of the Society should be to bring
of all.

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Mr. Manning said that the matter of labor is a very important one. Franklin Davis, at his nursery in Richmond, Va., pays his help partly in rations of Indian meal, molasses, and bacon; none receive above fifty cents per day and rations. At William Parry's extensive small fruit gardens, at Cinnaminson, N. J., the speaker had seen whole families living in barns and cooking out-doors, during the picking season. We cannot obtain labor at the prices paid in these cases.

Mr. Wetherell said that he should as soon think of talking about competition between strawberries here and in New Brunswick, as between those raised in the South and those grown here. He endorsed all that Mr. Curtis had said. Dighton berries in good order do not sell for the tail end of Southern prices. Mr. Wilder had struck the key-note in his remarks. The speaker mentioned a dealer who said he rejoiced in low prices, because they brought fruit within the reach of the poor. This discussion is in the direction of producing better fruit at low prices. In fruit growing, as in dairy farming, success depends on skill in business. The choicest butter will bring eighty cents per pound, and good fruits never go begging for remunerative prices. The South may grow the best fruit and send it here, and we shall be glad to buy it.

N. B. White said that Southern grapes come in competition with ours, because grapes can be kept. He thought Dr. Sturtevant's suggestion, to educate the taste of the community, a good one. The Society should give premiums for quality as well as size of fruit.

Mr. Hunt said that growers should not be discouraged by the low prices of last season. It should be remembered that the season was hot, and forced the strawberries to ripen early. The Philadelphia raspberry is the greatest bearer, but the fruit is not firm, and turns a little black.

Mr. Strong suggested that we should cultivate so well here as to turn the tables on the South.

President Hayes gave an account of some of his observations of Southern gardening a year ago. As the train approached Charleston, circulars were placed in the hands of the passengers, giving information concerning a garden at Magnolia, sixteen miles from the city. He was one of a party of thirty or forty who visited the garden, going up the river, passing the phosphate beds, the factories for grinding phosphates, and the alligators lying on the

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from forty to fifty acres in extent, and
arch, magnolias, azaleas, convolvuluses,
varieties were in bloom in profusion.
ruck with the difference in the ease of
e South; the proprietor said that all he
these flowers was to get a little slip and
e whole secret was the wonderful supply
liscovery of the value of these phosphates
en thrown into the river.
s once an aristocratic place, with fountains
ts, but it is now deserted, and land in the
ve hundred dollars to one dollar per acre.
n who told him that his father, while at a
ews that a vessel had gone ashore with a
though his friends told him he was too old
n them, he got a quantity of the nuts and
arden; and now the trees from these seeds
ndred dollars worth of nuts annually, form-
is old age, and he has to watch that the nuts
lso, President Hayes met Mr. Alexander
Cambridge University, England, who was
t and vegetables, but wanting a market,
enable him to erect a few small green-

ground presented a very unprepossessing
aw very little foliage, and were much dis-
g green peas and other early vegetables,
did not keep them for home use, but sent
n cities. The only good beef came from
His wife said that another winter she
have the tropics in her own house.
xpected to find bananas, but they all went
on. On board the steamer, on their way
over three hundred cases of cucumbers,
abbages, but not one was landed at Savan-
York, and they had none at their hotel in
re they got some Southern fruit, and at

t the result of the discussion today was
to him. We have settled that there is

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really no competition between the South and North in small fruit growing worth speaking of. Dr. Sturtevant's remark that we should seek to educate the public taste is correct; it is what we have been trying to do for fifty years. The sixteen thousand bushels of strawberries brought from Norfolk to Boston, and the ten thousand bushels from Dighton, have enabled many to eat strawberries who never tasted one before. Mr. Strong is right in regard to reducing the price of fruit. This, also, is what we have been aiming at for years.

The President gave notice that, at the meeting on the next Saturday, the subject of discussion would be "Peach Culture," to be opened by Caleb Bates.

BUSINESS MEETING.

SATURDAY, February 12, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. Francis B. Hayes, in the chair. No business being brought before the meeting, it

Adjourned to Saturday, February 19.

MEETING FOR DISCUSSION.

The subject today was "Peach Culture," and the discussion was opened by Caleb Bates, who said that, in planting peach trees, the first thing is to see that they are not set too deep. He preferred to have the collar entirely above ground, but they are generally set three or four inches too deep. When the collar is below the ground, excrementitious matter forms on it to the great injury of the tree, and makes an excellent place of deposit for the eggs of the borers. If the collar is above the surface, this effete matter does not form, and the borers do not find a congenial home around the collar. He always pours in water while planting the tree, to settle the earth around the roots. It is very important to see that there are no borers in the trees when planted; he once bought a lot of trees which had been puddled, and when the puddle was washed off he found that half the trees had from one to five borers each.

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th those who think peach trees do best in
to be not more than four inches in diam-
en years' growth, and to have three or four
one. He aims to make his trees grow in
ce abundantly. If all the fruit buds on a
e tree has nothing to do but to grow, and
ot to feed it too highly, But if the buds
he fruit sets, by the last of May it will be
then the trees should be liberally manured
zers, such as guano or hen droppings, and
by the dark green color of the leaves how
nd to such treatment. If no fertilizer is
pen the fruit, but make no wood or fruit
. Mr. Bates emphasized this point as the
he could say,—force when in fruit, and
not in fruit. The peach is the only one
bears on the new wood. If all the crop is
has grown too fast, the young wood may
ically, a perfect peach tree is a cone cov-
Bates here exhibited a branch of a tree
vth last year of one hundred feet; it was
ery poor soil, but afterwards came within
and showed the effect of stimulants.
rd to borers, that while some pile up ashes
m the tree, he believes these are just what
etain just enough moisture to hatch the
have a bowl around the tree than a hill.
paper around the tree, but he has fifteen
hich there are no two butts alike. There
run up, and between these are openings
ter. He advised to use a mason's trowel,
's knife, to scrape away and cut out the
be provided to kneel on. The first season
the wood, but remains in a cavity outside,
craped off. He keeps hens for the benefit
feeds them in the afternoon with cracked
l around each tree. Peach trees seem to
e in regard to having anything growing
Bates advised that no crop whatever should
ground should be left entirely bare.

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is later and excellent. The Snow is
The Salway is too late for general cultiva-
good in warm locations and desirable in
to the tree well. Hale's Early is the most
certain. It should not be allowed to over-
d them eleven and a half inches in circum-

am, the sandy constituent being sharp and
uces the finest peaches and sweet potatoes.
plant on soils entirely of sand. The best
and hills; such places in Massachusetts are
orth of Florida. Elevation has a wonderful
ground thirty or forty feet higher than his
buds are safe there when they are all killed
ch crop is much more liable to be destroyed
ith than here. He does not believe there is
stern Massachusetts for the production of
nd high flavor, though the western part of
The shores of Maine and New Brunswick
ist which the northeast winds raise a spray,
nosphere across our State, while the whole
ojects beyond all the coast south of New
lts in the south and southeast winds bring-
r our windows, as can be found by a touch
aline influence heightens flavor and color in
l had Catawba grapes covered with a bloom
e exposed to a concentrated draft of air.

ntroduced to the meeting, John B. Russell,
N. J., and the only survivor of the eight
iety, who thanked the President for the kind
introduced him, and expressed the pleasure
nore attending a meeting of the Society.

rked that among the horticulturists present
y heads indicated their long experience in
led on Hon. Marshall P. Wilder to speak of

t it is never too late to plant fruit trees, and
-headed members present would live to eat the
if they should plant them the coming spring.

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Charles M. Hovey said that he had had some experience in tivating the peach since he was a young man. In 1806 Richard rs read a paper before the Philadelphia Society for Promoting 'culture, of which he was president, on peach culture, in which tailed the difficulties that he had encountered, and the means d taken to overcome them. Judge Peters and other writers ained that these difficulties were increasing, and that the e was less favorable than previously; and every year since eople have made the same complaint, and said that it was 'er of any use to attempt to cultivate peaches. They recol- abundant crops in former years, when they were young, the failures. The speaker thought we might count on a ee years out of five, if we have the trees. He used to thousand peach trees in his nursery every year, and had the rear of his house, twenty-five years ago, which were dded, and produced many fine varieties, three of which ght worthy of names, and were called the Cambridge te Ball, and Hovey. About 1848 he made a collection arieties of peach trees, which grew up and fruited so e trees broke down. All the characteristics of the re noted. He saw no reason why peaches should not throughout New England.

. J. Downing was of the opinion that the peach crop d whenever the thermometer fell to ten degrees below has been found incorrect. But, if after severe cold thaw, and then the mercury falls to zero again, they The case is the same with nearly all plants; they frost, but the second freezing kills. In low grounds more liable to be injured than on elevated land. ay there is no growth in trees in the winter, but if condition of the buds of the abele on the first h that on the first of January, we shall find they if we examine them now we shall find them still f peach trees get only moisture enough to keep up, they are more likely to stand the winter than The trees must be pruned, if it is desired to Mr. Hovey preferred to plant anew frequently, tleman in Dorchester who plants six trees every he best varieties for amateurs are Hale's Early, e's Favorite, George the Fourth, Crawford's

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Early, and Crawford's Late. Peach trees in France are subject to mildew.

Benjamin G. Smith said that the buds on his peach trees, which are on the highest land in Cambridge, were uninjured. The thermometer had fallen to seven degrees below zero. The total failures have been exceptions to the general rule. He had had six or seven crops in the last ten years.

Joshua Coolidge, a grandson of the originator of the Coolidge's Favorite, said that since his boyhood peaches had been a failure, owing to the borers and yellows. When he was a boy, peaches were as common and required as little care as the coarsest weeds. Young seedlings sprang up in the orchard, and the fruit required thinning. He now cultivates only for family use.

John B. Moore was glad to hear such hopeful views expressed in regard to peach culture. A few years ago he was taken to task for expressing such views. He felt no doubt that we should raise peaches as well as ever we did. He has a good peach orchard, and if the buds are not killed, will have a crop. The location is the first thing to be considered; it never should be in a valley, but on hills or high table land. Soil that will produce forty bushels of corn to the acre is rich enough for peaches. It is a great mistake to force trees the first year or two; a moderate growth is all that is wanted. A good strong tree, one year from the bud and two from the seed, is better to plant than an older one. The main stem should be headed down to five feet, and the side branches should be cut off entirely; they will die if they are not cut off. If the trees are headed down to five feet, and the fruit is thinned, the trees will not need to be propped. The branches will start out horizontally, instead of growing upright and making sharp crotches. In shortening the previous year's growth, in later prunings, it should always be cut to an outside bud. When the trees are large, only the strong leading branches should be shortened; the lateral shoots bear the fruit. In five years the lower branches will bend to the ground without breaking. If the tree is cut down to two feet when planted, the branches will run up, and split down if not propped, and sometimes if they are. It costs a good deal to prop them. The speaker had planted peach trees from ten to twenty-five feet apart, but thought twenty feet best. This gives plenty of air and light, without which the fruit cannot color well. The soil should receive clean culture,

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l no crop should be grown. He does not pity any man who
s trees by borers. He used to have a great many, but now he
pes away the earth and puts on whale oil soap in the spring,
again the first of July. It is easy to cut them out. Nature
cts the collar to be covered. The only serious trouble is the
vs, which has never been accounted for, nor has any remedy
liscovered. The speaker thought it was caused by a fungus.
sor Goessmann claims to have cured the yellows, and Mr.
had been using the material which the Professor had
, which may have prevented the development of the yellows.
nd bone as fertilizers will give the highest colored fruit.
ard to varieties for market, the Crawford's Early is early
as it comes in just as the best Southern peaches are gone.
's Late gets frosted once in four or five years. The speaker
olidge's Favorite only for his own eating. The Oldmixon
is good, but there is more money in the Crawfords. In
e must not be afraid to cut off strong wood pretty se-
metimes shoots as large as a man's thumb must be taken
orchard, which must be cultivated by horse power, the
t be allowed to branch as low as in the garden. His
velly loam, about seventy-five feet above the valley.
rticular as to aspect.

r wished to commend Mr. Moore's general system of
he preferred to cut down a young tree to eighteen
lanting. In the autumn it will be five feet high.

Capen had always been interested in peach culture.
severe pruning for peach trees; they need as much
pe vines. He would prune during the winter and
ou have a small top and whole root, and all the
trong, and give large, handsome fruit. He thinks
ie to the absence from the soil of some kind of
ee needs. The speaker had cultivated oranges
aid that neither the peach nor the orange would
r crop growing around it. He advised those
h and raise oranges and fresh figs.

aid that he planted a hundred peach trees eight
r years ago raised a great deal of fruit. He
l bear the third year. He could have told when
ermometer, when the buds were killed. They
ch in winter as in the spring. He mulched

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with spent tan—about three bushels to a tree ——— which by keeping the frost in the ground retarded the swelling of the buds, and prevented injury to the crop by late frosts. A neighbor (in Peabody) who pursued the same course, sold in two years, from half an acre of land, $790 worth of fruit of finer quality than the Southern. His trees are planted eight or ten feet apart. The buds are all right for a good crop this year. The Crawford's Early and Foster are the principal varieties; the Foster is very handsome, but the Early Alexander is ahead of all others as an early fruit. The New York nurserymen say it is a clingstone, and they do not think much of it; but it comes into market nearly as early as the Southern peaches, which are not to be compared with it. He thought these and the Oldmixon Freestone the four best varieties. The speaker advised all peach growers to try mulching with tan. He would pile it around the trees without removing the soil, and after it has served the purpose of retarding the buds, would remove it lest it should furnish a harbor for injurious insects. He had one tree affected with yellows, which looked as if it was caused by starvation. He took the tree away, but it appeared to have affected another tree near by, as seedling onions are injured by a bed of rareripes alongside. Trees affected with yellows should be immediately removed, as the disease is liable to affect any trees in the orchard. Those nearest are most in danger of injury. Even if the trees have fruit on them when the disease is discovered, they should be removed, the value of the fruit being of no consideration in comparison with the injury to the trees around. In planting he marks the ground with a large breaking up plough, taking care not to disturb the subsoil; this makes it easy to set out the trees. At the time of planting he takes off every branch and shortens the stem, leaving from two and a half to three and a half feet. If the top does not leave out he trims it down to the highest shoot. If the thermometer falls to twenty degrees after the buds are nearly ready to bloom, they would be sure to be killed, and it is to prevent this that he mulches with tan. If the ends of the shoots are injured by frost, they should be trimmed back to the live part.

The President announced that the subject for discussion the next Saturday would be "Plum Culture," with, perhaps, a continuation of Peach Culture.

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BUSINESS MEETING.

SATURDAY, February 19, 1881.

adjourned meeting of the Society was holden at 11 o'clock, esident, Hon. Francis B. Hayes, in the chair. No business rought before the meeting it
rned to Saturday, February 26.

MEETING FOR DISCUSSION.

bject of Peach Culture was first taken up, and Caleb red to some criticisms on his recommendation to set he collar at the surface of the ground. It had been at the borers would get into the roots, but he said it to find and destroy them in the roots as in the trunk. ys puts the collar upon the surface, as in forest trees up from seed. Mr. Bates here showed two sketches; he base of a pine tree growing naturally, and the base of an apple tree; the latter was eleven inches out would, he said, have been much larger if not p. The first is the plan of nature; the second is does not lift in growing; the reason that trees mended appear to have their roots above ground, increase in size. When trees are planted in soil ose and mellow some distance below the roots, t two inches above the surface to allow for set- oy he planted some apple trees too deep, and for five years; he then dug them up and planted now they are thriving and productive trees.
that he lives on what was a peach farm sixty lows is the greatest trouble in raising peaches. arm about 1848. This was the second instance e first was on the Coolidge farm in Watertown rlier. Since that time the trees in this State from it. Mr. Hill's trees bore well for three ttacked. He thinks it is deep seated. Old land, escaped the disease and died of old d trees were set out near them, they took

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the disease. It appears about the fifth or sixth year from the seed. A nursery raised from the seed of peaches brought to our markets from the South will be sure to show the disease, and nurserymen are now collecting their peach stones from healthy trees in Missouri and the mountains of Virginia. Trees from such seed should be budded from the healthiest trees that can be found, and will then endure for five or six years. Mr. Hill said that as a member of a Committee of the Middlesex Agricultural Society he visited two peach orchards offered for premium; one of these, containing two thousand trees, was in Hudson, and the owner had also a nursery of four thousand trees. Mr. Hill saw symptoms of yellows there. The seed was got from New York. Any person planting a peach orchard must take new land, be very particular in selecting his seed and manure, and watch carefully every step, to avoid contagion. There still remain old, isolated trees which are free from yellows. The speaker saw some on Cape Cod, from twenty to fifty years old, which looked like the trees he used to see, before the yellows was known, and at Mashpee he saw a healthy tree thirty years old. Such trees as these will furnish healthy seed. The whole difficulty in raising peaches is the yellows; when this disease prevails new plantations must be made almost as often as of strawberries. Half of Mr. Hill's trees have begun to show yellows. The soil, aspect, elevation, and method of planting are of comparatively little consequence. He found the border of Spy pond, and a hill two hundred feet above, equally eligible. Old native trees gum more than trees from New Jersey. If you get healthy seed and raise healthy trees, it is very difficult to keep them so; pruning a healthy tree with a knife that has been used to prune a diseased tree will communicate the disease. When planting he would prune off all bruised roots, and prune the top to a straight stick, but not prune at all afterwards. His last orchard of two hundred trees of Crawford's Late was never pruned. He thought seedlings from healthy trees would be longer lived than budded trees. It is of no use to set a healthy tree in the place from which a diseased tree has been removed.

David B. Flint said that he had cultivated peach trees successfully on ground from one hundred and twenty to one hundred and fifty feet above tide water. He had covered the trunks of his trees with straw to protect them from the sun, as he saw done at Montreuil, where the trees are trained on walls, and thought it

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is removed about the middle of May.
ıch inserted on the north side of seedling
ıe winter safely, when those on the south

that he got buds of the Foster peach, and
rees at Billerica, which showed the yellows
ıught that peach trees planted deep would
e surface, and that plums and elms would

ıowed peach buds taken from several trees
ridge, none of which were injured. Hon.
at Dorchester, and Mr. Flint's, at Water-
rhile those of Edmund Hersey, at Hingham,
ston, were killed.
the buds of trees at his house, where
lthy, were uninjured, while those at his
ower, where the trees are healthy, were

ke of raising peach trees forty years ago,
ot at a garden in Roxbury, where the trees
healthy, and all produced fine fruit. The
all produced fine fruit. He bought some
h proved to have the yellows, and commu-
edlings, and they were all destroyed. The
h acres of orchard, and the only way to
all diseased trees. Most of the seed from
raised, has been collected promiscuously,
es for them to take the yellows — from the
. Handsome dishes of peaches have been
which the Committee said at once, "These
ee, and buds will propagate the disease."
ticut are found what are called "sheep
e twenty-five years old, and healthy. It
pits from such trees as these to produce
rsery.
ilder, said it was learned long ago that
ust be extirpated. He agreed with Mr.
stones gathered promiscuously; some of
l. If we plant the stones from our trees
althy, we shall get good kinds, and he

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advised to grow them up without budding, believing that they will last longer.

John Owen quoted from Thacher's "American Orchardist," (page 207), a case where a tree supposed to be dead from the effects of the yellows, had large quantities of common wood ashes thrown about the roots during the winter. The next season it put forth its leaves vigorously, and bore an abundance of fine fruit. A small quantity of ashes was thrown around the roots the next fall, and the next season the tree bore so full that it was necessary to prop it up. Another gentleman tried the same experiment with entire success. The speaker asked why this cure was not continued. He raised one year fifty bushels of peaches. The Noblesse is the best of all—it is wonderfully delicious; it is of the color of a Green Gage plum and equal to it in quality, but the tree is tender. The George the Fourth is more solid than Coolidge's Favorite, and superior in quality. He had trees of Crawford's Late planted near a marsh, which never failed to ripen their fruit.

Mr. Wilder doubted whether we should find any remedy for the yellows, though experiments are under way at the Massachusetts Agricultural College, and in the experimental grounds of the "Rural New Yorker," in the hope of discovering a remedy. Professor Goessmann applied a chemical manure to a row of affected trees, which restored them for one year.

C. M. Atkinson said that some of Mr. Bates's points were new to him, and some he could confirm from his own experience. There was, however, one point which he had overlooked — the influence of the stock and of root pruning in retarding growth. He would have his peaches on the Muscle plum stock. But the plum is not so successful on the peach stock; five years ago he planted five plum trees, one of which sent up peach suckers, and last summer, when trees had nearly completed their growth, there came a heavy rain after dry weather, and this tree burst in fifteen or twenty places, and gum exuded. Peach stocks are, however, much cheaper than plum stocks, and plums budded on them will make marketable trees sooner, and hence there is a great temptation to nurserymen to propagate them in this way. The principle works two ways; the plum cannot take all the sap furnished by the peach stock and bursts, while the peach on the plum finishes its growth and ripens its wood earlier. In England, peaches are cultivated entirely on the plum stock. At the late John P. Cushing's place (now Samuel

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ter found peaches on plum stocks, planted
and if he were planting one or a thousand,
plum stocks. He thought it would ward

ked whether peaches under glass are ever
He had never seen this disease in the ex-
Samuel G. Perkins or Thomas H. Perkins,
n Europe, if it is known there at all. He
to look sharp to find any fungus connected
caused by climate. In 1857, there were
ich trees killed; in 1861, the thermometer
elow zero, falling sixty degrees in twelve
and cherries did not get over it for years.
ere so many peaches that he could not sell
had had little trouble from the yellows.
kly that it is hardly worth while to doctor
grow them for market he would plant ten
led, cut them down and plant ten acres
on high sandy land. They cannot be
stocks as on peach; the great value of
ck growth and cheapness.
ed Mr. Hovey's view that the yellows is
under glass in this country.

Culture" was here taken up.

ormerly we raised the plum very success-
ere the curculio and the black knot, and
hey have almost gone out of cultivation.
Vandine grew them at Cambridgeport,
its. The curculio can be destroyed by
t placed underneath. The black knot
on as it appears. For a few years past,
eeded better than previously. He has
; one a Monroe, twenty-five feet high,
ts that he cuts out, and another on the
ergrows, producing an unsightly appear-
y black knots on the latter. He hopes
lums more successfully than a few years
new plantation.

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Mr. Wilder quoted from a report by Dr. T. W. Harris, in the "Proceedings of the American Pomological Society," for 1854, the opinion that the black knot is not caused either by the insects found in them, or by the black fungus, *Sphæria morbosa*, on the outside. He who will not protect his plum trees from the curculio, does not deserve to have plums, any more than he who will not protect his trees from canker worms, deserves to have apples. Ellwanger & Barry, of Rochester, N. Y., raise Plums by cartloads; a man attends to half an acre of plums exclusively for two months. He spreads cloths under them morning and evening, and a sudden blow on the tree with a mallet jars the curculios down on the cloths, when they are gathered up and destroyed.

Rev. A. B. Muzzey said that he was a neighbor of the late Samuel Pond, and that Mr. Pond had most remarkable plums—Washington, Jefferson, Green Gage, etc., which always commanded the highest price—some of them two dollars per dozen. This was from 1835 to 1845 or later. Mr. Pond's land had been at times overflowed by the tide, and the speaker thought his success was due in part to the saline matter in the soil. In the latter part of his life he was somewhat troubled by the black knot. Mr. Muzzey said he had destroyed the curculio by jarring it down upon sheets.

Mr. Hovey said that he was born in Cambridge, and lived about a hundred feet from Mr. Pond, who was a blacksmith. At that time Mr. Pond had no garden. The estate where the speaker lived was purchased by his father in 1799, and the spring tides were kept out of the garden by a dike which was overflowed every fifteen or twenty years, though he could recollect only one overflow. His father had plum trees producing white and blue plums, the fruit of which then brought four or five dollars per bushel. One of his earliest recollections was of climbing one of these trees and picking three bushels of fruit from it. At first there were no curculios, but afterwards the fruit began to drop; the next year it dropped more, and then the black knots appeared and he suggested cutting down the trees. In 1831 or 1832 a very high tide covered the garden six inches in depth, and killed the strawberries. When the sun came out everything was covered with salt. Mr. Pond began his garden after this, but the soil was no more salt marsh than Mr. Hovey's, and salt had nothing to do with Mr. Pond's success in raising plums, but it was rather due to his manuring very highly. Mr. Pond's trees finally suc-

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lio. In 1827, before the curculio appeared,
from Prince's nursery the Washington and
s. He once bought a thousand Canada
nd they were more subject to black knots
ks.

ıt his trees were struck with black knots all
Green Gage and Lombard plums, and when
os in his trees he tried every expedient to
ghtening them away or other means. He
ople apply remedies the curculio is often
frequent examinations made as to the effect
placed stakes around a Green Gage tree and
adth of mosquito netting to them, and the
efore that time his children had hardly seen
s wife pinned a breadth of mosquito netting
fruited well again.

he had cultivated a great variety of plums,
more or less, but no knots; afterwards the
He cut them out and washed with salt,
was a remedy, and wrote a paper on the
agricultural meetings at the State House,
did no good; the knots grew worse and
ere destroyed. He thought the knots due to
that the fungus grows on the knot. Profes-
in College, saved his plum crop by removir g
anches to the depth of three or four incl es
lacked lime. He tried it on one tree, and
t, and it bore three bushels of fruit. The
ade de Bavay are two of the best varieties.
whale oil soap in the proportion of five
water, for showering his plum trees and
ith in it as a destroyer of insects.

plums could be protected from the curculio
hen damp with air-slacked lime, so thickly
ill not injure the fruit. Some cultivators
ary for plum trees, but he thought some
n a light soil.

d trees of Coe's Golden Drop and other
sandy soil; four or five feet down there
ıt a peck of wood ashes around each tree

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J. W. Manning had seen plums in numerous instances thriving in sandy loam. In his native town of Bedford, New Hampshire, the soil is a rocky yellow loam without clay, but thirty years or more since, twenty-five of the finest varieties were cultivated there, and all bore abundantly until the curculio appeared, which was about 1855. In Chelmsford, the curculio destroyed the plums about 1849 or 1850, so that their cultivation was practically abandoned. In Chelsea, two years ago, he saw Lombard plums from a rocky, gravelly loam, though there might be clay underneath. They were under good cultivation, and the hens picked up the insects under them.

Robert Manning said that the researches of Professor Farlow* had proved conclusively that the black knot is caused by a fungus (*Sphœria morbosa*).

It was announced that the subject for discussion the next week would be, "Which of the new or more recently introduced Hardy Ornamental Trees and Shrubs are worthy of special mention?"

BUSINESS MEETING.

SATURDAY, February 26, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. Francis B. Hayes in the chair.

The Treasurer stated that it would be necessary to provide a new plate for the Certificates of Merit awarded by the Society. The subject was referred to the Executive Committee with full powers.

Adjourned to Saturday, May 5.

MEETING FOR DISCUSSION.

The President, in behalf of the Committee on Discussions, respectfully requested that exhibitors of fruit, flowers, or vegetables would have their contributions arranged by 11 o'clock, so as not to interrupt the meetings for discussion.

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* Bulletin of the Bussey Institution, Vol. I, p. 440.

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for today was, "Which of the new or more
dy Ornamental Trees, Shrubs, or Plants are
on?"
ving been called on to name such plants,
hat they were unprepared, Hon. Marshall
would name one shrub which he considered
ll—the *Hydrangea paniculata grandiflora*.
e a quarter of a century ago, its merits
d until within a few years.
ought it the most showy but not the most
e considered the *Hydrangea paniculata* in
to the variety *grandiflora*. The latter is
than the type, which is of more upright
nd quite as hardy. The *Viburnum plica-*
the snowball) is much more delicate. It
Hydrangea paniculata grandiflora, for it
gate and does not grow so rapidly.
e *Viburnum* very beautiful, but not more
Many of the plants which we think new
d while but have not become common.
the *Viburnum plicatum* as well as the
ndiflora. The former was figured in the
ore than thirty years ago. Sometimes
her fruits as well as flowers are dropped
rwards come up again and are thought

Viburnum plicatum was not introduced
ars ago, and was not like the *Exochorda*
mparatively rare and has now come up

that he had the *Viburnum plicatum* thirty
t Mr. Buchanan's grounds at Astoria,
rs ago. He thought the variety *grandi-*
ulata did not differ from the type. The
e "Gardeners' Chronicle." The *Hydran-*
ll that is grandest in shrubs as the *Ex-*
is most beautiful. He agreed with Mr.
is more beautiful than the *Hydrangea*,
still more beautiful, and also more diffi-
three are the most beautiful of the more

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recently introduced shrubs. The *Viburnum macrocephalum* resembles *V. plicatum;* the cluster of flowers is larger.

President Hayes agreed with Mr. Wilder (whom he styled the Nestor of the Society) that the *Hydrangea paniculata grandiflora* is superb. He cultivates it in many forms, ——— large groups, and trained to a single stem. He had taken great pleasure in the exquisite foliage of the Japanese maples,—some of rich scarlet before that of others has appeared. The *Aralia* (*Dimorphanthus*) *Mandshurica*, is a new tree-like shrub with immense clusters of creamy white flowers. The *Polygonum Japonicum* is a new climbing plant with large variegated leaves, which are very ornamental. It grows with great rapidity, propagates easily, and is perfectly hardy, having stood four winters. The *Xanthoceras sorbifolia* is a new and very charming shrub. The last three plants, which were introduced here by the speaker, are yet quite rare. The *Sciadopitys verticillata* or umbrella pine, which some have thought was not hardy, Mr. Hayes had found quite hardy, several plants which were left out during the winter having done better than those sheltered.

Mr. Strong inquired of the President whether he gave special care to shading and watering the Japanese maples. In his observation they had suffered from the hot sun, like the variegated *Negundo*. Of this he saw a specimen at Mr. Hunnewell's as fine as any that he saw in France, but it does not look as well now.

President Hayes replied that his Japanese maples were planted in the shade of pear trees, and had no special watering. In winter he puts a little matting around them. His finest variegated *Negundo* is on a sidehill, and has no protection; in severely hot summer days it burns a little, but on the whole is most satisfactory. Others which stand in bleak places have a little protection, but this will soon be discontinued.

Mr. Strong thought that the President's fine *Negundo* would ultimately fail like the others. Our clear sky and hot sun are too much for its delicate foliage. The plain type is hardy in suitable soils. He thought the Japanese maples would also suffer; under protection they may do, but as a general rule they will disappoint. The *Acer Schweidleri* is very promising; it is a tree of the Norway maple type, of first size, hardy, with foliage of a beautiful pink changing to dark green.

President Hayes agreed with Mr. Strong in regard to *Acer*

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had the variegated *Negundo* for eight years,
most of the first, those which he has now
e cannot expect to have everything perfect;
uble with choice and delicate plants, and it
und a small maple.
tried the Japanese maples when they were
lost every one; he found them very feeble.
erience has been the same with very few
aker admired the enterprise of President
ink the Japanese maples would ever come
his observation the variegated *Negundo* had
our hot sun, and a large tree which he saw
t Paris, has since wilted and withered. He
really well except at Mr. Hayes's and Mr.
ed the President would persevere and be
the Japanese maples. With some plants
site that of the Japanese maples; perfectly
uced, but not known to be hardy, and are
eenhouse, where they die out. Forty years
eas for a plant of *Andromeda floribunda*,
eenhouse, and William E. Carter came over
n at Cambridge to help nurse it; the price
o seven shillings and sixpence, and is now
and the plant is known to be as hardy as a

id that he had made a specialty of the new
und all the *Retinosporas* perfectly hardy.
uces of medium size—not as large as the
habit; they do not get straggling. The
ii, and *orientalis* are all very beautiful;
. Gray's largest specimen is fifteen feet
, of which there is a great variety—among
ii, now know as *Picea pungens*—are next
e evergreens are all hardy, and are adapted
Gray's plants were received directly from

hat *Retinospora squarrosa Veitchii* has the
glaucous than the type.
hear Mr. Gray speak so highly of *Abies*
st refined of all the spruces; *A. Nord-*
but *A. orientalis* is superior in delicacy.

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It is a slow grower, and not so easily transplanted as some species. It is difficult to raise from seed and therefore scarce.

Mr. Hovey quoted from the "Magazine of Horticulture," for 1866 (page 330), his recommendation of the *Viburnum plicatum* as a species that should have a place in every collection of hand-some flowering shrubs. He imported from Lemoine, in 1878, a plant of *Xanthoceras sorbifolia*, for which he paid five francs, and also at the same time the Kentucky coffee tree with variegated leaves. The type of the latter (*Gymnocladus Canadensis*) is one of the most remarkable and beautiful trees in winter and summer. In winter its blunt shoots, without spray, are unique, and in summer its twice-pinnated leaves, three feet long, are delicate yet massive. In 1878 the speaker planted seed in a box; in the centre there came up a plant with variegated foliage. Wier's cut-leaved maple is one of the best recent acquisitions. The liquidambar is some-what tender here; it gets killed back in winter, but gains a foot or more every year. In Connecticut it is entirely uninjured. The star-shaped leaves are very peculiar, and change to a beautiful deep crimson in autumn. The tupelo has foliage as beautiful in sum-mer as that of a camellia, changing in autumn to an intense crim-son; no other tree takes so deep a color. The limbs spread horizontally. There is in Cambridge a very fine old tree, from which the speaker has raised seedlings, and a second generation from those. The *Acer Colchicum* is almost as deep colored as the Japanese maples, but had not proved hardy with him; it was killed in the winter of 1861–2. He thought one variegated *Negundo* enough on a place, unless it was desired to have it spotted all over with white, and moreover the foliage is apt to burn. He had a plant of *Sciadopitys verticillata* very early, and had found it perfectly hardy, but a very slow grower, not making more than six inches of wood in a year. The magnolias have been very much neglected; *M. acuminata* is a very fine tree, with beautiful foliage, and perfectly hardy, but difficult to transplant. *M. tri-petala* has the ends of the shoots winter-killed, but is nevertheless very desirable. *M. Lennei* is a very fine variety, with large purple flowers, and sufficiently hardy. *M. tripetala* and *M. acuminata* grow freely from seed, while the Chinese species are reputed not to germinate well, but the speaker saw no reason why they should not.

Mr. Strong said that the seeds of *Magnolia Soulangeana* come

but no magnolia seed should be allowed to

t twenty-five or thirty years ago he imported
from Waterer and now he has but one tree
killed down to the snow line very soon.
were set in a line, next to a row of *Thuja*
and made a thick hedge, but the sun struck
here stood the only one now remaining. This
t of twelve feet. It is very remarkable for
—glossy green on one side and white on the
better in Mr. Hunnewell's ground, where
y. Mr. Hunnewell has also very fair trees
. Deodara, and others which do not succeed

ener to Mr. Hunnewell, said that at the
he variegated *Negundo* had done remarkably
imens from three to twelve feet high, and
l. Some are in the sun, and some in shade;
olor best. The purple maples are equally
hum atropurpureum, one of the Japanese
r until the first of July, when it turns green.
the first, and the contrast with the green
ot much to say in favor of the other Japanese
on of *A. polymorphum sanguineum*, which,
r, is not so highly colored as *atropurpureum*.
leaved varieties crumples up, and they look
r or some stimulant. He had never suc-
r *Magnolia Soulangeana* or *M. conspicua*

l that *Acer polymorphum* is the stock on
and other Japanese varieties are grafted.
about many trees from which others cannot
oes. The *Acer Colchicum rubrum*, of the
ly hardy; the speaker has a tree thirty feet
ed when it was twenty-five feet high. The
et and become green when older. The
able; early in the season it is not so deep
eech, but later in the season it is darker
a metallic lustre. He sows magnolia seeds
t rubbing off the outside cuticle. He did

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not know that *Magnolia Lennei* has fruited in this country. Mr. Parkman has raised large numbers of seedlings of the Chinese magnolias; the speaker had bought seedlings of him. Mr. Parkman used to get seed from John Kenrick's trees; the seedlings vary a little.

Mr. Wilder said that he had often tried to germinate the seed of Chinese magnolias, but without success; that of the American species grows very readily. No European nurseryman has advertised seedlings of *Magnolia Soulangeana*.

Mr. Strong did not wish to be understood as saying that he had raised *Magnolia Soulangeana* from seed in quantity.

William H. Spooner confirmed Mr. Strong's statements in regard to Mr. Parkman's success in raising Chinese magnolias from seed.

Mr. Hovey spoke of the golden poplar and the golden syringa as very beautiful; the latter is especially golden-

It was voted to continue the discussion of the subject on the next Saturday.

BUSINESS MEETING.

SATURDAY, March, 5, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, Vice-President John B. Moore in the chair.

The decease of four members of the Society,—E. Fred Washburn, Henry Vandine, Hon. John C. Gray, and George B. Emerson, LL.D.,—was announced and a committee consisting of Hon. Marshall P. Wilder, John C. Hovey, John G. Barker, Charles M. Hovey, and William C. Strong, was appointed to prepare memorial resolutions.

The following named persons, having been recommended by the Executive Committee, were on ballot duly elected members of the Society:

WILLIAM A. BOCK, of North Cambridge.
GEORG A. SCHMITT, of Boston.
CHARLES W. NORTON, of Allston.
HERBERT MERRIAM, of Weston.
FREDERICK M. SAFFORD, of Dorchester.
E. FRANCIS BOWDITCH, of Framingham.

Adjourned to Saturday, March 12.

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'ING FOR DISCUSSION.

ast discussion, "The Hardy Trees, Shrubs, introduction, most worthy of notice," was '. L. Harris, gardener to H. H. Hunnewell, ı by reading the following paper on the

'ies and Gentlemen:

ecessary to speak particularly of the older f evergreen trees and shrubs, for they have t to your notice by many practical cultiva- ɛir adaptability to withstand the severities ne fully recognized, not only by the members .overs of horticulture through the length and t may not be out of place, however, to state ɔe to some of these, because every close years of experience many ways of doing novel and interesting. I shall, therefore, .re familiar to you all.

ɔhe *Abies Alcoquiana*, *A. polita*, *A. Sitchen- ii.* They are comparatively rare here, but ıble, particularly the last, which is close vith the foliage short and very rigid, and ' quite glaucous.

s *Douglasii*—one of the most beautiful of that trees imported from Europe seldom grown here from Rocky Mountain seeds with the Norway spruce. The trees of the esley are now eighteen feet high. I notice ıe others, prefers a very deep soil; say three ıt of fourteen or fifteen feet in diameter. tree of great beauty; our specimens are r several years we have been in the habit nd them with strong manure, and it is see the difference between those thus iserable starvelings usually seen. I say s, and you will be fully repaid in the your trees. The manuring of evergreens most unknown, but today I think it is the

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Picea nobilis is not very generally known, and yet when it becomes so, I think it will be acknowledged that it cannot be excelled in majesty. *Picea Nordmanniana* is a grand tree; in its youth it is difficult to get a leader, and in this case the side branches should be judiciously pruned, which is best done in April and May, as is the pruning of all other conifers or evergreens. *Picea Veitchii* is an elegant tree, a rapid grower, and every way worthy of attention.

I know of no class of evergreens so well calculated to give general satisfaction as the *Retinosporas*. Their peculiar forms and colors, both in summer and winter, afford the greatest pleasure. Many of the varieties are dwarf in habit, while others grow from twenty-five to thirty feet high. *Retinospora plumosa*, *R. plumosa aurea*, *R. squarrosa*, *R. obtusa*, and *R. filifera*, are among the most valuable. *R. plumosa aurea*, is, above all others, one of the most desirable, it yields so readily to the pruning shears. For topiary work it is unequalled, and particularly for edgings to beds, or it may be planted in masses and cut into any form chosen. Ribbons may be made of any desirable length, composed as follows,—the first row next the grass, *Euonymus radicans variegata*; second row, *Retinospora decussata*; third row, *R. plumosa aurea*; fourth row, *R. squarrosa*.

Retinospora filifera aurea will probably become the most beautiful of all, appearing in the distance like a fountain of yellow interspersed with green. It is perfectly hardy, as are also *R. obtusa Keteleeri* (handsome), *R. filicoides*, *R. lycopodioides* (singular), *R. gracilis*, *R. obtusa variegata* (a low grower), *R. obtusa pendula* (very pretty), and *R. decussata*, which is remarkably glaucous in summer and dark brown in winter, and of erect growth.

Thuiopsis Standishi is the most hardy of its genus, and a very desirable evergreen. *T. dolabrata* and *T. dolabrata variegata*, delight in shady nooks, yet not immediately under the foliage of other trees. In the sun they will brown, especially the *variegata*. *T. lætevirens*, is dwarf and very pretty.

Taxus adpressa, I have found to be the hardiest of all the yews. The foliage is small and dark green, and the habit of the plant spreading.

Of the *Thujas*, or arbor-vitæs, *T. gigantea* is quite hardy, and destined to be one of the really ornamental trees. *T. occidentalis Vervaeneana* is quite distinct; it has beautiful yellow foliage. It

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abody; perhaps, indeed, it is the most
ja Queen Victoria grows older and more
points at the ends of the growth become
sirable variety.
ar. *Cracovia*, I think is not generally
ich more hardy than either the Swedish
iniana Burkei is one of the best of all;
columnar, mode of growth gives it an
pearance. It resembles *J. Virginiana*
hardy. A golden variety of juniper—a
ta, from Mr. Douglas—is a rapid, spread-
its rich, golden tint through the summer,
mass of bronze, and showing the same
It may be used as a margin, or edging,
ns. *Juniperus Youngi aurea*, is beauti-

trees, I should like to know why it is
irch, when grown as a standard in this
ke those received from England. All
here at a height of from six to eight feet,
as those from Europe, grafted low down,
ld leader, with the laterals weeping close
prefer the latter.
essoniana, when better known, I think
for I know of no tree equal to it for
oliage is dense, and its flowers are pro-
re very ornamental. I am not sure but
ely in this country for timber, provided
as the common locust. I hope some of
means and land, will plant it so exten-
in this respect.
ne. The *Hydrangea paniculata grandi-*
hat it would appear as though nothing
vor; yet, it seems to me that if some of
ain plants as standards, say from six to
regard them with still more favor. At
panicles, almost touching the ground,
st support, whereas, when grown as it
nber of stakes to support it, especially
Ve have one at Wellesley, with a stem

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seven feet high and a head five feet across. I hope some of our nurserymen will take the hint and act accordingly, for I am satisfied that when grown in this way it is far preferable to any other form. To prune this shrub, cut back all the previous year's wood to two eyes from the old wood.

Discussion.

Jackson Dawson said there are two varieties of *Hydrangea paniculata grandiflora*, one of which resembles *H. arborescens*.

Charles M. Hovey said that the date of introduction of every fruit, flower, and shrub is recorded in the "Magazine of Horticulture." The *Viburnum plicatum* was introduced in 1848; *Exochorda grandiflora* in 1859, and *Hydrangea paniculata grandiflora*, in 1868, or earlier, and now it is talked of as new. He first got it under the name of *Hydrangea deutziflora*.

William C. Strong said that the habit of growth of *Hydrangea paniculata* (the type) is more upright than that of the variety *grandiflora*.

Mr. Dawson said there is the same distinction between *Hydrangea paniculata* and the variety *grandiflora* as between *Viburnum Opulus* and the variety *sterilis*.

Mr. Hovey spoke of the *Prunus triloba* as a most beautiful shrub, with wreaths of rosy pink blossoms, and of the *Spiræa prunifolia* as most desirable for the beautiful color of its foliage in autumn—amber and gold. *Viburnum macrocephalum* is good. He imported *Negundo aceroides variegata* in pots in 1859, and *Magnolia Lennei* from Van Houtte in 1856.

Mr. Harris remarked that nothing is more ornamental in the conservatory than *Negundo aceroides variegata*.

Mr. Hovey said that *Forsythia suspensa* flowers before almost anything else. It may easily be trained as a standard, in which form it is very beautiful, with its drooping branches and clear yellow flowers. *Pavia macrostachya* (the dwarf horse-chestnut) is most beautiful and massive. He has a tree forming a mass twenty feet in diameter. *Spiræa Thunbergii* is a very desirable species. The Messrs. Veitch used it for edgings to beds in their camellia house. *Pyrus Maulei* has fruit even more ornamental than the flowers; the former are about the size of a Coe's Golden Drop plum. *Daphne Cneorum* blooms the whole summer through and the pink flowers are very fragrant. *Philadelphus thyrsiflorus* is a

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he has a specimen eighteen feet high which has
l flowers; shoots seven feet long were covered
individual flowers are larger than those of *P.*
Salix Napoleona is nothing but the old weeping
lonica.
l that *Salix Japonica pendula*, from Japan, has
han the common weeping willow, and makes a
ine feet long in a season, and seems to be a very
He went on to speak of a large number of
ated at the Arnold Arboretum (where he is gar-
ve either proved, or promise to be, desirable for
on. Some, which are new to us, may be old
been neglected and laid aside and are now reintro-
ay not prove hardy, and some may need slight

orbifolia has proved perfectly hardy, and is very
g a profusion of white flowers with pink centres.
o (*baccata*) grows from ten to twelve feet high and
semi-double pink flowers. *Malus floribunda* is per-
d bears full of rosy pink flowers. At the Arboretum
e varieties of *Malus spectabilis*,—the double white,
nd single white. They can be kept down to three
by pruning.
Bumalda is not hardy when young, but in two or
becomes capable of resisting the cold. The flowers
ure white, and would be fine for forcing. It is from
and Japan. *Staphylea Colchica* and *S.* pinnata are

rviflora is more like a *Spiræa* than a *Deutzia*, and is
nest new species, as is also the true *Deutzia scabra*—
ariety under that name, which is a rough-leaved form
a. The new one was brought from Japan by Thomas
the speaker had it on the authority of Samuel B.
f not the true *Deutzia scabra*, it is the exact counter-
old's plate of that species.*
vey said that if the *Deutzia scabra* mentioned by Mr.
new, it is different from that described by Loudon,

rson states that he was informed by Mr Hogg, who introduced
eutzia *scabra*, that in Japan it rarely grows above two feet in
s entirely distinct from all other species, both in flower and habit.

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Don, and others. The leaf of the kind commonly cultivated under that name is rough.

Mr. Dawson said the leaf of the true *Deutzia scabra* is rounder than that of the one commonly cultivated under that name. The bark peels off from all the species as the plants become old. He then resumed his remarks on shrubs at the Arnold Arboretum.

Cytisus nigricans has the cluster of pale yellow flowers upright instead of drooping, and is perfectly hardy.

Lonicera hispida, from St. Petersburg, is also perfectly hardy; it trails like *Arctostaphylos Uva-ursi*, and is well adapted to rock-work. *Lonicera Maximowiczii* is a very rare upright honeysuckle, perfectly hardy, and one of the most desirable late introductions.

Actinidia polygama is a beautiful climber, and said to produce a delicious fruit.

Philadelphus coronarius var. *Schrenkii*, is of very dwarf habit, and flowers very early—a week or ten days before any other species. *P. coronarius* var. *tomentosa*, promises well. *P. hirsutus* is softer and more delicate—one of the prettiest of all.

Rosa rugosa and the variety *alba* or *Regeliana* are desirable.

Mr. Harris thought *Rosa Regeliana* distinct from *R. rugosa*; the flowers of the former are four inches in diameter, and the fruit covers the plant in autumn.

Mr. Hovey remarked that *Rosa tacoum* is slug proof.

Mr. Dawson still thought *Rosa Regeliana* but a variety of *R. rugosa*. He said that *Rosa rubrifolia* has very fine purple foliage, which it holds through the hottest weather, and Mr. Harris agreed with him.

Rubus villosus semi-pleno is a very fine double-flowered variety of the common high-bush blackberry, and desirable as adding another variety to a garden where there is sufficient room.

Tamarix Sinensis is an old plant; it is more hardy than any other of the genus, and is worthy of cultivation for its delicate foliage and flowers—the latter appear a month or two months later than those of any other species.

Styrax Japonica is perfectly hardy in dry soils. It has white flowers very similar to those of *S. Americana*, but perhaps a little larger. The latter is a very pretty shrub, from four to six feet in height, which ought to be in every collection; the flowers resemble those of the *Halesia* or silver bell.

Viburnum macrocephalum is also hardy.

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is is new, and a most rapid climber, having one year.

um; H. aureum, from the Missouri river, and last an old sort but not much cultivated, be- nearly a month earlier and holding on a month *icum*, are all desirable.

that E. L. Beard has a fine plant of *Hypericum* stood out-doors three years.

l that *Hypericum patulum* was always cut to the but came up sufficiently to flower. Hardiness treatment. Plants of doubtful hardiness should drained soil, and a chance to ripen up their wood. ed with this.

d that his soil has a clay bottom and is unfavor- hose hardiness is doubtful. Anything that will ounds will stand anywhere in the United States. oretum and Mr. Beard's garden are on elevated,

said that *Berberis Sinensis* is perfectly hardy, three feet high, and is of drooping habit. When uit (which is less acid and "peggy" than that of arberry) it looks like a fountain of scarlet. *Ber- gii* has fine autumn foliage, and, when the fruit, leep, rich, scarlet color, is ripe, forms a perfect pic- low-growing shrub.

pendulæflorum, *D. pendulæflorum album*, and *D.* re hardy on dry soils. All are suffruticose rather . The first two are especially valuable on account of e in autumn, when there are but few flowers. The e first are purple, and all are pea-shaped.

aponica flore pleno is more double and whiter than the owering cherry, and blooms later.

Sibirica is a very desirable variety, flowering early in *unus Myrobalana* is one of the earliest trees to flower g.

ey remarked that the last-named tree grows very rap- he wood, when burnt, perfumes the room.

son added that the Germans grow it for "zwetschen-

s Davidiana and *C. tubulosa* are erect growing species, to four feet high, and in midsummer are covered with

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beautiful blue flowers like panicles of hyacinths. Unfortunately they do not seed freely and are rather difficult to propagate. *C. Davidiana* is the more desirable of the two. *Clematis graveolens* (*orientalis*) is perfectly hardy and a very rapid growing climber; it has yellow flowers. *C. coccinea* is the prettiest of all the hardy species; the flowers are brilliant crimson. It is a climber from Northern Texas; not hard-wooded, but dies to the ground.

Leiophyllum buxifolium has stood in the Botanic Garden at Cambridge for twelve years. It is a small evergreen shrub, growing about a foot high. A larger form, from the mountains of North Carolina, has a larger leaf of a more waxen appearance.

Spiræa confusa var. *mollis*, is one of the earliest and prettiest. *S. lævigata* is a curious species from Siberia; the flowers are not of much account, but the foliage is beautiful. *S. Lenneana*, from St. Petersburg, has bright, rosy pink flowers. *S. Tobolski* resembles *S. sorbifolia*, but flowers three weeks later, and is perfectly hardy.

Nelia (*Spiræa*) *Amurensis* is similar to *Nelia Opulifolia*, but the corymbs are much larger, and about two weeks earlier in blooming.

Jamesia Americana resembles *Spiræa Reevesiana*; it grows two feet high. It is from the Rocky Mountains.

Neviusia Alabamensis belongs to the rose family; it has numerous bunches of pure white flowers, and is quite showy. Though from Alabama, it is perfectly hardy.

Aralia pentaphylla is perfectly hardy and desirable for the beauty of its foliage, which is of a bright glossy green.

Erica vagans, *E. vagans rubra*, *E. carnea* and *Calluna vulgaris* all do well on thoroughly drained land with a slight covering; if the snow blows off and leaves them bare, they burn.

Andromeda polifolia is a native species, which under cultivation becomes one of the gems of the garden. The foliage is of a glaucous color. It is perfectly hardy. *Andromeda Calesbæi* is of rapid growth and easily propagated. When planted with rhododendrons, nothing is more beautiful, and with protection which they afford it is perfectly hardy; if not sheltered the ends of the shoots are sometimes injured. *Andromeda floribunda* is the finest of all. *Andromeda Japonica* is perfectly hardy. It has been cultivated by Mr. Parkman for ten years, and has never covered it. It wants to bloom too early in the spring to be good. but five years out of six it will be good. Mr. Dawson exhibited a small plant in

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om a cold frame and placed in heat only

a native of Massachusetts, is very beau-
The speaker expressed the opinion that
bs of our State were gathered together
t variety to form a most beautiful garden.
the *Clethra alnifolia*, found abundantly
the most beautiful shrubs.
iat one of our native trees, a variety of
l to take a place among the finest pines.
y feet high, with a head from twenty to
, and as round as if it had been clipped.
e same habit. It is in the town of Dracut,
been kept secret.
the variegated *Pinus Massoniana* is the
evergreens. The best specimen in this

id that he was much pleased to hear Mr.
f native shrubs. The late Joseph Breck
atifolia the finest of all shrubs. In the
the *Andromeda floribunda* has proved a
shed with flowers, and as hardy as an

tween 1790 and 1800, Lyon and Fraser
y to England nine hundred varieties of
e of which at auction occupied several
isit they carried home three hundred or

ie great trouble with cultivators is to
any things would be hardy at Wellesley
. Hovey's grounds. Mr. Dawson hit the
said that shrubs should have a thoroughly
e wood must be well ripened to stand the

mittee of five be appointed by the Chair
best twenty deciduous shrubs, the best
nd the best twenty conifers, and report
ry Winthrop Sargent, H. H. Hunnewell,
am Gray, Jr., and Charles S. Sargent
nmittee.

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Benjamin G. Smith, Chairman of the Committee on Publication and Discussion, announced that the subject for the next week would be "Vegetables and their Culture."

BUSINESS MEETING.

SATURDAY, March 12, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, Vice-President John B. Moore in the chair. No business being brought before the meeting it

Adjourned to Saturday, March 19.

MEETING FOR DISCUSSION.

The subject assigned for today was "Vegetables and their Culture" and the Chairman called on Benjamin G. Smith to give his method of cultivating the Lima bean.

Mr. Smith said that having been quite successful in the cultivation of this vegetable he had been frequently asked for his method. He sows the seed about the middle of April (being careful to place the eye down), in what are known as "cucumber boxes," filled with loam, five seeds in each. The boxes are without bottoms, six inches in height, seven inches square at the top and eight inches square at the lower part, and are made of half-inch stuff. They cost six dollars and a half per hundred, and have already been in use ten years. He was first to use them to forward Lima beans, and finds them invaluable for this purpose. When the beans are planted the boxes are placed in the cold grapery — and the poles are are about two feet high the ground is prepared box is made at the set out, and a hole large enough to receive the and placed in the foot of each. A box is then lifted on a shovel removed by lifthole and the shovel withdrawn. The box is then smaller than the ing up; the object of making the top an inch is possible to set out the bottom being to permit this. It is not advising as early as the young plants before the first of June, but this in this way five seed can be planted out-doors, and by forward fresh from the weeks can be gained, and the beans can be of October. The garden from the middle of August to the middl

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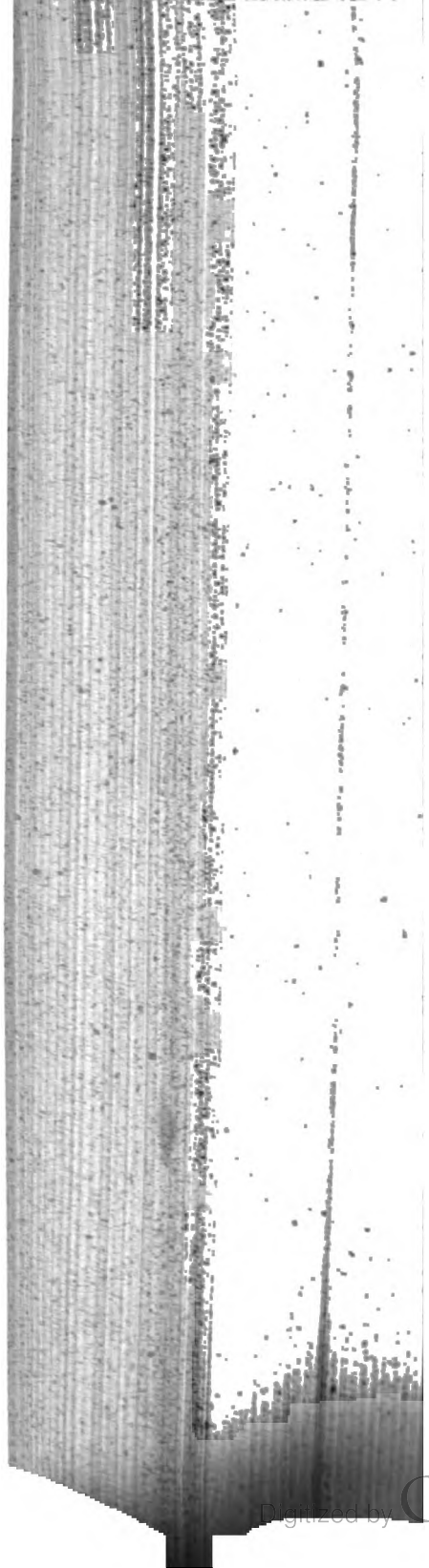
ical plant and requires a long season. Any for winter use, and when soaked can hardly n fresh beans. In saving seed the earliest fully selected.

. Wilder said that all who have visited the hia must have noticed that no vegetable is so a beans. Through the winter they are soaked ready to cook. He agreed with Mr. Smith in e for winter use, and said that he had still a e pod.

l that lettuce is forced very extensively in the and three quarters of the crop is sent to New e with roses. They both bring a higher price ere. It is certainly very remarkable that coal ere from Pennsylvania to force vegetables, and New York. Some time ago, several New York d Boston, and spent two or three weeks in od of culture, and took back some of the most but they were no more successful at New York ll have returned. "Boston Roses" are adver- ists' stores there, and it is the same with lettuce with roses. The New Yorkers will pay a higher egetables than Bostonians; when forced cucum- ey bring six dollars per dozen, but few are sold y get down to ten dollars per hundred, when they e Southern product at two dollars per hundred. wers have substituted houses for hotbeds, but difficulty in growing lettuce in them until head- t that time the top of the head is apt to slough it is called. The same trouble occurs in hotbeds It is not burning; the sun strikes the glass too ary. It is most frequent in cloudy weather, fter several successive days of such weather. eater part of the crop has to be thrown away, and e very glad to know the reason of the trouble. ed Tennisball is best for forcing, and the Black ll for out-door culture.

rong thought that we have a brighter sun and a re than at New York, and that the greater success s and vegetables here might be partly due to that



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cause. The color of Bon Silene rosebuds grown here is brighter than that of those grown at New York. It has been supposed by some that the variety is different, but this is not correct. He thought the sloughing of lettuce is caused by dampness and the houses not facing due south. His own houses have this aspect, and he thought that if Mr. Wood's had had the same there would have been less of sloughing off in his lettuce. Unless a house faces the sun the frames do not receive the direct impact of the sun's rays, and are hard to dry off in dull weather.

The Chairman said he had forced lettuce in hotbeds for two or three years, and had had little trouble from rot, but did not like the price it brought. He thought the rot was caused by dampness, for he found most of it under the sash. He had not grown lettuce in a house. He begins in fall and transplants twice; the first time the seedlings are set three inches apart. Lettuce must have plenty of air and be grown slowly. At a low temperature there is not so much trouble with the aphis as at a high degree. It is very hard to get rid of when on the under side of the leaf. Smoking will not do it. Some cultivators grow lettuce to half size in houses, and finish in hotbeds.

Horse dung brought by railroad is not equal to fresh for making heat. The box used by Mr. Smith for transplanting Lima beans is equally good for cucumbers — indeed they are called "cucumber boxes." There is no difficulty in removing tomatoes. When it can be done, it is best to transplant them twice — the second time into eight inch pots—and give plenty of air. Then, when placed in the open ground they are fine, stocky plants, in bloom, and go right along; but this is too much work for market gardeners.

Mr. Wood said that William D. Philbrick has a lettuce house two hundred feet by twenty-six, facing south, and has just as much trouble with the rot as in houses running north and south. Mr. Wood had seen no aphis in his house for three years, and thought that if houses are well aired, and fumigated once a week, there would be little trouble from it. It is a hard-shelled insect, and difficult to get rid of when grown.

Mr. Strong said that Mr. Philbrick's houses are very wide and flat-roofed, and that it is impossible to give air and dry them off thoroughly.

William H. Hunt thought that one great advantage of living in the country is to have fresh vegetables, but it is not appreciated

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where they hardly ever fail to have some
in the year. It is very healthy, yet few
had endeavored to. People in the country
to have a variety of vegetables, especially

garded the subject under discussion as of
. Quality should be considered before
n anecdote of an English root grower, who,
t him an enormous mangel-wurzel, said it
raise wood. Such overgrown beets and
crops when the quantity is less to the acre
operties, as has been proved by chemical
e with the sugar beet, whether grown for
most profitable potato and the one that
ose. The market price last year and this
ts per bushel higher than that of any other
is better for baking, but not so good for boil-
tive. The best quality is always in demand.
n Canada is not as good as when grown
at Houlton, Maine, are better than ours.
rown too large, when it becomes coarse.
udied by vegetable growers.
the Early Rose is the only potato used in
arly and late. There may be others as

at Bresee's Prolific is of better quality than
so productive. The Prolific grown at
anywhere else. The Early Rose is the

nd the Early Vermont more prolific than
s said to be fifteen minutes earlier. It is
rly Rose, and he prefers it to its parent
onger. For market he wants the largest
cause they bring more; but for his own
e of medium size. The Snowflake, and
er quality than the Early Rose. In June,
Pearl, a variety which originated in Ohio;
s remarkable keeping qualities, and is very
getables are of better quality for having
g rapidly. There is no difficulty in grow-

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ing good potatoes. He grows fewer small potatoes than his neighbors; they are worth little more than the cost of picking up. If whole potatoes are planted they produce too many vines, and there will be many small potatoes, and only one or two strong, vigorous ones. He cuts up good, strong potatoes into pieces with two eyes each. He has seen splendid crops from small potatoes, but on general principles would not recommend planting them. Potatoes are smoother for not overseeding.

Mr. Wetherell said that his brother planted one-half a field with medium sized potatoes, and the other half with small ones; the yield of the former was more than double that of the latter.

William C. Strong spoke of B. K. Bliss's experiments in producing a stock of the Early Vermont potato from green cuttings, and said that the tubers produced were as large as those grown in any other way. The cuttings are made like verbena or fuchsia cuttings. It is the same with the Early Rose; under the same culture the tubers are as large, and the quality as good, as when grown from tubers.

John Fillebrown was called on as a skilled market gardener. He thought the Hill's Early, an Arlington variety, the best early pea; it yields well. It is difficult to tell how to grow sweet melons. If too much rain comes on them when they are two-thirds grown, the whole crop is destroyed. Last year the aphis came on them in such myriads that it was useless to attempt to keep them under.

Mr. Wilder said he had tried all the new kinds of peas, but did not get much ahead of the Champion of England in quality. The Dan O'Rourke and Landreth's Early are very much alike. He thought the Dan O'Rourke, McLean's Advancer, and Champion of England a good selection for early, medium, and late.

The Chairman said that he cared only for the wrinkled varieties of peas; the quality of the early, round, yellow peas is so inferior that he does not plant them. McLean's Advancer is second early and of fine quality. The Champion of England makes too much vine; there are others of as good quality that do not grow so high. The tall ones rot.

Charles E. Grant approved the McLean's Advancer for medium season, and the Champion of England for late. The very early kinds, like Dan O'Rourke, Caractacus, Hill's Early, and Philadelphia Extra Early, are all substantially alike.

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d that he bought of Daniel T. Curtis two
ıe fourth picking of the product sold for
ıd the gross proceeds of the crop were be-
twenty-five dollars. The variety was the
ve years ago he was advised to cut off the
nd feed to the cows, and plant the other
that by following this advice and cutting
only one or two eyes on a piece, his crop
ize and of better quality, and he was not
ttle sprouts and small potatoes.
ıat many experiments had been tried in
ıiddle, and base of the potato, and some-
eded best and sometimes another.
ıe opinion that the Early Rose and Early
same; he bought seed of both kinds of
in planting both in the same field to keep
see no difference in foliage, strength,
ity.
e is little difference in the height of the
ıce in productiveness. He cannot tell
and the quality is the same. There are
ıtoes sold in Boston market for Early
e true variety.
ɔld potato did not afford nourishment to
ere sprout did not receive. He thought
tached to an old potato can be trans-
ıile a detached sprout cannot, showed
ɔrd nourishment.
he had grown many potatoes from cut-
ɔng was correct in the opinion that they
pieces of potatoes. As to nourishing
is frequently found whole in autumn;
s out a whole system of roots, and as
the old potato is of little consequence.
the farmer who plants potatoes whole
ɔs.
he had been growing potatoes all his
ın plant whole potatoes on his ground
eed. He would have two eyes on a
ments can be quoted in favor of both

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Mr. Wetherell said that he had a good farm and would not allow a man to cut a potato to plant. These discordant opinions can only arise from our failure to take note of all the conditions under which our crops grow.

Mr. Capen agreed with Mr. Moore in regard to cutting potatoes, but preferred only a single eye on each piece. Some break off the sprout when an inch long, and repeat this process four or five times and then after planting the sprouts they plant the potato. Two men may plant alongside of each other and get very different results, and in 1881 you may get very different results from those produced in 1880 by the same method.

Mr. Hunt agreed with Mr. Moore in regard to cutting potatoes rather than planting whole, and thought the former was the general practice. He thought that the young sprout gets a certain amount of nourishment from the piece of potato to start it. In his experience the Beauty of Hebron is more productive and of better quality than the Early Rose.

Rev. F. L. Capen said he had found that the first blossom on a shoot of a tomato plant fails to produce fruit, and he had pinched off the ends of the shoots to cause them to develop, and had succeeded. He asked if any one had propagated from seed of the fruit from the first blossom.

The Chairman said that the first blossoms often set fruit.

Rev. Mr. Capen thought that tomatoes are generally planted too near together—about three feet—they should be five or six feet apart. He thought it would pay to train them on a cheap trellis.

The Chairman said that training and pinching tomatoes would do for amateurs, but not for market gardeners. All the money the latter make on tomatoes is in the first three weeks, and they would have no use for trellises. The Acme took the first prize last year, and it is productive and of fine quality, but it is not so early by five or ten days as some other varieties.

Mr. Wilder said that the Paragon is as good as the Acme. Mr. Livingston, who originated the Acme, says that the Livingston's Perfection is superior to the Acme. These improved tomatoes are as rich in their way as a fine peach in its way and only want a little sugar added to them. The speaker thought that the tomato had been brought to perfection, and that it is a matter for rejoicing that any vegetable can be improved to so high a point. For home cultivation tomatoes are greatly improved by training; he

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vacant spaces on his grape trellis, and they
high and produced four times as much as
ound.

t he invariably trains his tomatoes to an
brush, and the fruit keeps sound and per-
ying on the ground. He deems a trellis of
e.

ey said that he set twenty-seven plants
and though he cut off the ends of the shoots
throw all the sap into the fruit, they reached
ich was six feet high, and would have gone
lowed to. They were watered with guano
st abundantly.

hat he had been requested to speak of his
ums. He thought the time had come
no difficulty in raising this fruit. He felt
as he had when a boy, and he got thirty
Barry to see whether he could beat the
hem in his hen yard and trimmed them up
not fly up into them, and they have borne
e last two years, and there has not been a
on it. The trees get manure enough from
. Four trees outside had the fruit marked
e dug out the eggs with the point of his
good crops. The only trouble in raising
io, is the black knot, and he had had only
hich came out on the trunks of the trees.
n, sound wood, removing all that had a
earance. It is said that the spores of the
knot, mature after the knots are cut out,
their propagating, he put all that he cut
wild plum and cherry trees on which the
be cut down and burned. He shortened
wo-thirds, so as to make broad, spreading
s, and the result is some very vigorous
ng trees to shake down the curculio there
rk, but the hens lay eggs, raise chickens,
ulio. He was surprised to hear an old
ovey, maintain that the black wart is
Some of the best plums are the Green

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Gage, Washington, Jefferson, Smith's Orleans, Pond's Seedling, Bradshaw, Lawrence's Favorite, Imperial Gage, and Coe's Golden Drop. He planted his trees about twelve feet apart. Cutting back has a tendency to produce a good deal of small wood. He saw no reason why he and all others should not raise plums.

Mr. Smith said that he had six plum trees which he got from Ellwanger & Barry. These gentlemen exhibited at the Mississippi Valley Horticultural Society's Exhibition at St. Louis, last year, fifty varieties of plums, and at the Centennial Exposition in Philadelphia, more than all others except Canadian growers. We have been told that it is of no use to try to raise plums, but if Ellwanger & Barry can do it, others can.

The Secretary announced that Charles S. Sargent had declined serving on the Committee to prepare a list of trees and shrubs, and John Robinson was appointed in his place. Jackson Dawson was added to the Committee.

BUSINESS MEETING.

SATURDAY, March 19, 1881.

An adjourned meeting of the Society was held today at 11 o'clock, Vice-President Benjamin G. Smith in the Golden chair.

A package of seeds from J. L. L. F. Warren, of San Francisco, Cal., was received, and the thanks of the Society were voted to Col. Warren therefor. The seeds were placed in the hands of the Committee on Plants and Flowers, for distribution among the members.

Adjourned to Saturday, March 26.

MEETING FOR DISCUSSION.

The committee appointed at the meeting on the fifteenth of January, to prepare a list of the forty-eight most desirable Hybrid Perpetual Roses, reported the following which was accepted:

WHITE.

Mlle. Bonnaire, ...	*Pernet*, . . .	1859.
Baronne de Maynard, ...	*Lacharme*, . . .	1865.

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BLUSH.

thschild, . *Pernet* . . . . . 1867.
. . . . *Guillot, fils*, . . . 1867.

PINK.

. . . . *Ward*, ... 1862.
. . . . *Levet*, ... 1871.
d, . . . *Sansal*, ... 1864.
. . . . *Pernet*, ... 1869.
, . . . *Schwartz*, ... 1871.
. . . . *Damaizin*, ... 1873.
ınt, . . *Marest*, ... 1859.

ROSE-SALMON.

. . . . . 1874.
. . . . *Guillot, fils*, . . . 1869.

ROSE.

. . . . *Lacharme*, ... 1859.
. . . . *Liabaud*, ... 1877.
. . . *W.Paul & Son*, . . 1877.
. . . *Laxton—Paul & Son*, 1877.
. . . *Granger*, ... 1868.
. . . *Jamain*, ... 1868.
. . . *Levet*, ... 1866.

IT CARMINE RED.

. . . *Levet*, ... 1871.

RED.

. . . *Lacharme*, ... 1865.
. . . *Lacharme*, ... 1861.
. . . *Beauman*, ... 1863.
. . . *E. Verdier*, . . . 1863.
. . . *Guillot, fils*, . . . 1866.
. . . *E. Verdier*, ... 1864.
. . . *Granger*, ... 1865.
. . . *E. Verdier, fils*, . . 1874.
. . . *Guillot, père*, . . . 1869.
. . . *Laxton—Paul & Son*, 1878.
. . . *C. Verdier*, ... 1864.
. . . *Cranston*, ... 1875.

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Sénateur Vaïsse,	*Guilliot, père*	1859.
Duke of Edinburgh,	*Paul & Son*,	1868.
Ferdinand de Lesseps,	*E. Verdier*,	1869.
President Thiers,	*Lacharme*,	1871.
Richard Wallace,	*Leveque*,	1871.
Thomas Mills,	*E. Verdier*,	1873.

CRIMSON.

Louis Van Houtte,	*Lacharme*,	1869.
Mons. Boncenne,	*Liabaud*,	1864.
Abel Carrière,	*E. Verdier*,	1875.
Xavier Olibo,	*Lacharme*,	1864.
La Rosière,	*Damaizin*,	1874.
Pierre Notting,	*Portemer*,	1863.
Fisher Holmes,	*E. Verdier*,	1865.
Prince Camille de Rohan,	*E. Verdier*,	1861.
Olivier Delhomme,	*V. Verdier*,	1861.

WILLIAM GRAY, Jr., *Chairman.*

No subject having been assigned for discussion, that of last week, "Vegetables and their Culture," was again taken up.

Aaron D. Capen expressed surprise that the plan of planting potatoes whole should have found an advocate on the previous Saturday. He had for many years rejected the seed end for planting and never failed of success. It has many small, weak eyes, which produce shoots corresponding in number and character. He agreed with a speaker at the last meeting, that the best potatoes for exhibition are found in hills having but a single stalk, showing the advantages of light seeding. He prepares pieces with but a single eye on each.

John S. Martin had planted potatoes in all ways—large and small, whole and cut, and had never found any difference.

J. W. Talbot said that a neighbor of his received a letter offering to send directions for increasing the crop of potatoes twenty per cent., for one dollar, to be paid in case the plan proved successful. The method was to take a well ripened potato of any size and cut out all the eyes but two, and let the cut surfaces dry a week or two before planting. It proved so successful that his friend sent the dollar. Mr. Talbot thought the plan much better tha

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it also that experience had shown very
lts on the crop between using for seed the

had been advised by an old cultivator
planting potatoes.
planting potatoes he puts the cut side
a cultivator who soaked cut potatoes in
, and strewed them between the rows of
he latter were up, as turnip growers in
seed in trenches. The potato beetles
and thus many were destroyed which
ed on the crop.
concurred with Mr. Talbot and Mr.
antage of avoiding high seeding. The
uashes and melons, or fruit trees, none
est results when crowded. His system
lace one or two strong eyes in a hill.
prefers to plant in drills, and places
art in the drills. He ploughs from the
narrow space left to hoe. He culti-
or two weeks in opposite ways. To
ashes he planted the pure Marrow as
rids, and every year added a little of
ie seed from hybrids; by so doing he
than doubled. He plants squash,
n drills, as we plant peas, putting in a
s for the crop. After the plants have
they are thinned so that each one
od than by the usual way of planting

first cross in plants is like that in
parents. He does not believe that
of squashes, melons, etc., the first

practised cutting his potatoes to a
Early Rose, what appears to be a
of eyes, of which only one usually
l gets more and better potatoes for
han at a foot. In one experiment
at fifteen inches apart in the row, as
ng in a high state of cultivation.

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Mr. Wilder inquired of Mr. Paul what quantity of strawberries was raised in Dighton, where he resides.

Mr. Paul replied that he had tried to get correct and full information on this point. More strawberries are grown in Dighton than in any town east of the Hudson River. They are mostly Wilsons. In 1877 there were 772,600 quarts produced in the town. In 1878 and 1879 the crops were small, owing to the blight and the depredations of the larvæ of the May beetle. Last year about a million quarts were produced. This was about two-thirds what the crop would have been, but for the drought, which was, with one exception, the severest known during the strawberry season for fifteen or sixteen years. The largest well authenticated crops that he has known of have been raised in Dighton. The best crop he had known was four years ago on a acre and three-quarters of land (half being an old bed, which does not produce as well as a new), that yielded 17,000 quarts. Another half-acre yielded 6,400 quarts. He thought that the average of old and new beds—some being three years old—was about 5,000 quarts per acre for the year 1877. The business did pay, but is now overdone, and the quantity raised will be reduced rather than increased. The larvæ of the May beetle injure strawberry plants more in sod land the first year after it has been broken up, than after it has been cultivated in hoed crops one or two years, and the plants should therefore be set only after the sod is rotted. The Wilson has deteriorated within a few years, and is subject to a blight on both fruit and plant, which destroys it—in some cases, in a few days. None of the new varieties are so productive as the Crescent, but it is smaller and softer than the Wilson, and not of as good quality. The Sharpless has not been tested sufficiently. The Charles Downing is cultivated more largely than any other variety except the Wilson, and if firmer would supplant that variety. The Turner's Beauty, from Southern New Jersey, has failed two years out of five, but the other three years it was equal in productiveness, and superior in quality, to any kind he has tested. Last year the strawberries averaged eight cents per quart at wholesale, out of which the grower had to pay the cost of growing and picking, freight, commission, and rent of land.

Few raspberries are cultivated at Dighton, but Mr. Paul thought that a hardy variety would be profitable. The Turner is most

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actly what is wanted. It is as hardy as a
s are only of medium size and are soft.
The Brandywine kills out, and even
down they did not survive, but appeared
winters are very different from others in
Winter before last some of the strawberry
nothered, but during the winter now clos-
frozen continuously, and the prospect is

o men could lay down and cover an acre
He would not cultivate either the Phila-
ne, because they sucker so immensely.
oline as quite hardy. It is a hybrid be-
and the Catawissa, of orange color, and
tty sharp acid. It roots somewhat from
aps. No white cherry, currant, or rasp-
the market as red ones.
attempted to raise currants; he had
ise, but some Cherry, and had found no
. One currant bush would bear a good
e crop, and a third none at all—which
He had found a borer very troublesome

the same trouble in regard to the pro-
es as Mr. Paul. He intended in rais-
ngs only from the most prolific.
e course proposed by the Chairman
ctive bushes. He introduced the Ver-
ce many years ago; there was a great
d they got mixed with the Cherry cur-
nd the Versaillaise is best.

at he knew an instance of a man's
Early peas, from the produce of which
At Arlington, where he carries on
dening, they have to irrigate in order
ables. Melons are a very uncertain
had a fine piece, but at a critical time
of rain, and he never picked a melon
ny remedy for lice on melons; when
that it would be useless to try to pre-

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vent it. The only thing to be done for the maggot or borer is to cut it out. A small or moderate crop is more profitable than a large one.

Mr. Martin, in answer to an inquiry from Mr. Wilder, named the Surprise, Casaba, and Bay View melons as superior to any others. He had had no trouble with his melons from the weather.

Mr. Wilder said that the Boston greenfleshed melons are renowned for their excellence. He could not grow the finest kinds in perfection, and was obliged to rely on such as would in a measure take care of themselves. The Christiana, originated by the late Captain Josiah Lovett, is the hardiest. The Casaba grows very strongly, and the fruit is large and almost as good as the greenfleshed kinds. The Bay View is good and easily grown; it is much like the Casaba. For earliest he cultivates the Japan White; it is small but very delicious. It is not so easily grown as the other kinds named. The Golden Orange is next in earliness to the Japan White, and quite as good. He saves seed from the best specimens, and perpetuates the different varieties without much crossing.

He has used specific manures from the time when guano was introduced, and takes great care in mixing them. He made a strong compost for melons, and ploughed in and also put it in the hills. It consisted of two cords of loam, one hundred pounds of guano, and half a cord of manure. His foreman told him he would destroy all his melons with it, but he put a few quarts in each hill and never had such a crop of melons.

John C. Newton, being called on, said that his experience in horticulture had been confined mainly to the cultivation of pears. For two years he had been troubled with pear blight, which had destroyed his best trees. He asked whether it was not induced by too high culture.

Mr. Wilder said that he never saw a pear tree over-manured, though the late Samuel G. Perkins ascribed the death of a large Seckel tree to plethora, by manuring.

Rev. F. L. Capen had seen pear trees killed by the application of excessive quantities of green manure.

Mr. Newton said that he would not put green manure to a pear tree, but would compost it with loam and let it lay from twelve to eighteen months, and turn it over three or four times.

Mr. Fillebrown thought there was no such thing as over-

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rket gardens at Arlington large quantities
ised. At Philadelphia, in the month of
rised to see the large quantities of night
und. He thought it a very coarse way of
vas astonished to see the vegetables grown

of a novel way of raising potatoes, which
he ground is subject to drought, and is
perfectly smooth, and the potatoes are
covered with from fifteen to twenty inches
ure, which protects them from drought,
h it. Seventy miles from Chicago he saw
h two feet of straw to smother Canada

twitch grass could be destroyed in the
g the ground with cabbages, which, when
rfect shade as to destroy everything be-

een potatoes grown in Florida in a trench
thatch was removed from time to time,
es as were large enough were picked out,
replaced for more to grow.
ht that the ashes of a cord of manure
1 as the manure. He mentioned an in-
awy manure was applied for a crop of
uly, when the manure dried so as to have
no difference could be told between the
zed with manure in the usual condition.

NESS MEETING.

SATURDAY, March 26, 1881.

f the Society was holden at 11 o'clock,
oore, in the chair. No business being
g, it was dissolved.

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MEETING FOR DISCUSSION.

The report of the Committee appointed on the 5th of March to prepare a list of the best Deciduous Trees and Shrubs, and the best Conifers, was read by the Secretary.

Report.

The Committee, to whom was referred a selection of the best twenty Deciduous Trees and Shrubs, as also twenty of the most desirable Evergreens, beg leave respectfully to report as follows:

In the absence of all instruction as to whether the selection was intended for the purpose of planting places of some magnitude, or to be confined to what seems to be the future character of suburban homes,—a comparatively small number of acres,—your Committee, or rather a portion of them, have made the latter selection, choosing trees and plants of a secondary size, rather than those they might have recommended for the adornment of large estates, where much space would have been required.

The Committee likewise wish to say that these three selections were made by three members of the Committee of five (two declining to serve), without any consultation with each other, it being thought that by this course, the public would receive their individual opinions and experience without any bias or influence from mutual discussion or comparison.

HENRY WINTHROP SARGENT, *Chairman.*

The first list, which was selected by the Chairman of the Committee, and is intended for places of moderate or small extent, is as follows:

Deciduous Trees.

Weeping Beech.
Fern Leaved Beech.
Purple Beech.
Cut Leaved Weeping Birch.
Young's Weeping Birch.
Upright Pyramidal Birch.
Purple Leaved Birch.
Weeping Larch.
Weeping Silver Linden.
Imperial Cut Leaved Alder.
Golden Oak.
Golden Catalpa.
Golden Locust.
Variegated Maple.

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	Magnolia Soulangeana.
r.	" conspicua.
.	" glauca longifolia.
od).	" Lennei.
	Camperdown Weeping Elm.

SHRUBS.

nt.	Paul's Crimson Thorn.
gea.	Kœlreuteria paniculata.
a grandi-	Judas tree.
	Malus floribunda.
	Fern Leaved Sumach.
	Golden Elder.
	Weeping Sophora.
	Azalea mollis.
Thorn.	Rhododendrons.
Thorn.	Japanese Maples.
Thorn.	

EVERGREENS.

riental	George Peabody Arbor Vitæ.
	Vervaene's Arbor Vitæ.
Hemlock	Semper Aurea Arbor Vitæ.
	The Retinosporas.
	Cephalotaxus Fortunei.
Spruce).	" drupacea.
	American Holly.
uce.	Maxwell's argentea Holly.
	Thuiopsis dolabrata.
	" borealis.
ew.	Pinus Cembra.
ber.	

H. Hunnewell, is intended for a much more above.

DECIDUOUS TREES.

	Oak, White.
	" Scarlet.

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Maple, Sugar.
" Norway.
" Scarlet.
" Japanese atropurpureum.
Other Japanese Maples.
Beech, American.
" Copper.
" Weeping.
Cut Leaved Weeping Birch.
Tulip tree.
Magnolia acuminata.
Magnolia Lennei.
Linden, European.
" American.
Virgilia lutea (Yellow-wood).
Salisburia (Gingko).
Dogwood.
Catalpa.
Flowering Cherry.
Common Chestnut.
Liquidamber.
Weeping Willow.

Coniferous Trees.

Abies alba (White Spruce).
" Canadensis (Hemlock Spruce).
" excelsa (Norway Spruce)
" orientalis (Oriental Spruce).
" Menziesii.
" Alcoquiana.
" polita.
" Douglasii.
Picea Nordmanniana (Nordmann's Fir).
" Cephalonica.
Pinus Pichta.
" Lambertiana.
" Pyrenaica.
" excelsa.
" Strobus (White Pine).
" Cembra.
" sylvestris.
Sciadopitys verticillata.
Larix Americana.
" Europea.
Retinospora obtusa.
" plumosa aurea.
" filifera.
" Strong:

The following list was selected by William C[illegible]

Deciduous Trees.

Acacia, Three Thorned.
Beech, American.
" Purple.
" Weeping.
Birch, Cut Leaved Weeping.
Cherry, Myrtle Leaved Weeping.
Elm, American.
" Camperdown Weeping.
Gingko (Salisburia).
Maple, Norway.
" Reitenbach's purple
" Scarlet.
" Schneidler's.
" Sugar.
" Wier's Weeping.
Magnolia acuminata.

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Virgilia, or Yellow-Wood.
Walnut, Black.

SHRUBS.

Hawthorn, Scarlet.
Kalmia latifolia.
Magnolia glauca.
Prunus triloba.
Rhododendrons.
Roses.
Spiræa ariæfolia.
" prunifolia.
" Thunbergii.
Syringa Josikæa.
Viburnum plicatum.

EVERGREEN TREES.

Pine, White.
Retinospora filifera.
" plumosa.
" plumosa aurea.
" squarrosa Veitchii.
Spruce, Hemlock.
" Norway.
" Norway Weeping.
" Oriental.
" White.

DISCUSSION.

thought such lists as the above, from in the cultivation of ornamental trees uisitions.

that, though the lists were made by remarkable how closely the last two good deal of difficulty in making his ch would be exactly what one person ely unfitted for another. Many trees le, are entirely omitted; the ailanthus, produces an effect that no other tree

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gives, is not mentioned. A bare list may be misleading; one half may be just what a planter wants, and the other half may be what he does not want. The problem before the Committee differed from making a selection of roses or pears, and was much more difficult, because the character and habits of the trees are so different.

Benjamin G. Smith said that the three gentlemen who had reported were very familiar with the subject; and he thought Mr. Sargent's list well adapted to small places, and those of Mr. Hunnewell and Mr. Strong, to large places.

Mr. Wilder said that Mr. Strong was so conscientious and so desirous to give a list which all could understand without study, that he found it difficult to satisfy himself, but any one who has any idea of rural adornment, can select from these lists. In regard to some trees, such as the purple beech, cut leaved weeping birch, and virgilia, they are unanimous.

Mr. Strong hoped that the circumstances under which each tree does best would be added to the report of the Committee, and that the trees best adapted to particular localities would be mentioned.

Leander Wetherell thought that the greatest error in planting trees was the disregard of their adaptation to the soil. The sugar maple should never be planted in gravelly or sandy soils, nor should the elm. Emerson says that regard should also be had to the ripening of the leaves, beginning with the sumach and scarlet maple, which are earliest, and ending with the brown oak leaves, so as to produce the finest effect in autumn.

Mr. Strong said that the adaptation of a tree to the soil in which it is to be planted, is a point not understood by the public. All agree that the magnolias are very desirable, yet they are utterly unfit for dry soils; but this fact does not appear on the list.

Mr. Smith asked whether elms do not grow on dry soils.

Charles M. Hovey said that Cambridge is famous for dry soils, yet it is also noted for fine elms, such as the Washington elm, and the two elms at the "gates of Arlington," on a sandy knoll. There is another near the Botanic Garden. His own ground is partly moist, but he has no such elms in the moist as in the dryer parts.

Mr. Smith said it was well known that Cambridge Common,

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igton elm grows, is sandy. He had seen
or ten feet deep, showing only sand.
considered the elm the toughest of all
re anything else will grow, even where the
y years ago, he planted an elm near his
dgeport, where the tide frequently flows
arsh mud, and it has thriven and grown
ignificent elms at Goffstown, and also at
andy soil.
at elms grow at Concord on sand banks;
r roots.
s true that elm roots run wide and deep.
is, on the opposite side of the street, sent
g ground and entwined them around the
ots run deeper than is generally supposed;
dahlia bed, he had had strawberry roots

id that he was jealous of the reputation
a portion of the soil is clay, even in the
other elevated places the soil is sandy.
ably drift from the North Pole, which was
ried into certain parts of Cambridge, so
ntirely within a very short distance. He
lay within reach of the roots of the elm
nentioned as growing on sandy soil, and
erred to them, and those who believe the
ils, are both right.
hat the largest elm he knows, which is
nference, is in a sandy soil.
ed an avenue of elms at Hatfield, in a
. He was still of the opinion that the
nd quoted from "Gray's Manual" the
nd in "moist woods, especially along

ile disclaiming any intention to detract
minent a botanist as Dr. Gray, that the
"Manual" cannot always be taken as
gard to a tree or plant. Dr. Gray says,
iglottis and *H. ciliaris* are found in moist
ney generally are, but the speaker had

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frequently found them also in dry places. So the elm may be found in sandy as well as clayey soils.

The Chairman said that there are many large elms in Concord; some are twenty feet in circumference, with no soil to be seen about them. There is one in front of the town house. They have no difficulty in growing in sandy soil. On ploughed land near the river, some of the roots run near the surface. He had seen a root six rods from the tree, as large as his wrist, and so strong that two yoke of oxen could not break it. The roots are very tough. He has large elms near his house, and the bottom of the cellar is full of the roots. The bottom of his well is also full, and they stop up drains.

Mr. Wetherell remarked that the roots of maples in Hardwick had stopped up the drains on the Common.

O. B. Hadwen said that he was much interested in the report of the Committee, though his farm was not large enough, nor his purse long enough, to plant all the trees recommended by them. Each one should study the habits of trees, and plant those best adapted to his situation. No roots penetrate the soil deeper, or hold on with more tenacity, than those of the elm. There are others than the elm, which are not adapted to all situations. As a member of the Committee on Shade Trees in the city of Worcester, he had found that the rock, or sugar maple will not thrive in either sandy or clayey soils. The Norway maple often succeeds where the sugar maple fails, and will live and thrive in the streets. There was hardly a tree on the three lists reported by the Committee but he liked, and any one could choose from them. He spoke of the beauty of the purple beech, and alluded to a fine specimen on Mr. Wilder's lawn. Many years ago, he visited William Kenrick's nurseries, with the late William Lincoln, where they saw a purple beech for the first time, and when Mr. Lincoln was told what it was, he said that he had heard of a thing being knocked into the middle of next week, but this knocked him into the middle of next autumn.

It was voted that the lists be accepted and referred to the Committee on Publication.

The Chairman here announced that the List of Roses reported on the 19th instant, by the Committee appointed for that purpose, was printed, and ready for distribution to the members. He

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er of the Committee, he was of the opinion
nt thing had been omitted, viz.: a list of ten
promising new roses. Among these is the
a he thought the best of all the white roses—
ate kinds are deficient.
t the list valuable and serviceable, but also
nce is a splendid rose, but good for nothing
a.
at, in France, La France received a greater
a any other rose.
d Mr. Strong both thought it worthless for
out-doors or in.
it that if the Committee had described the list
est roses for exhibition purposes, no exception
aken to it. The Baroness Rothschild is in the
a France; Captain Christy is wholly tender;
erdier is tender.
aid that two years ago, he began to examine
see which were best, judging by points, and was
so many of high repute ranking low. Paul
rose, has no fragrance, and marks low on that

ought the Society could do no better work than
lists, especially of fruits. This list of roses
growers. He would like to have the best one,
e designated.
aid that the best one under each color was placed
Mlle. Bonnaire; blush, Baroness Rothschild;
per; rose salmon, Marie Finger; rose, Victor
rmine red, Etienne Levet; red, Alfred Colomb;
an Houtte.
jected that the colors were not described with
ess; one rose might be of a silvery hue, and
k shade of the same color; one might be of an
her of a translucent crimson.
id that many persons plant roses in prominent
those which bloom only in June are not things of
t time. The Committee could select kinds which
m June until frost, and he would like to have the
zen such. In his observation, the Mme. Alfred

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Rougemont is the most continuous bloomer of all. It is perfectly hardy, though not vigorous, and very useful for bouquets. The color is white, tinged with pink.

Mr. Wilder recommended the white Mme. Plantier rose. It is not perpetual.

The Chairman said that the subject of color was talked over in the Committee for an hour, and it was found impossible to designate all shades. Every one is not as well informed as Mr. Hovey, in regard to colors. As to the objection made by a previous speaker, to Baroness Rothschild, that it is too large for bouquets, the Chairman said that it is not necessary to put it into bouquets. A single flower in a vase is as beautiful as a bouquet, without the help of the florist. The Committee were all prominent rose growers, not second to any in the Society, and gave their best judgment to making up the list, but the speaker was of the opinion that some of the new roses would soon supersede some of the kinds on the list.

Mr. Hovey thought the list was an excellent one, but he was speaking for amateurs, who want to cut flowers for their friends, and instead of one great flower of Baroness Rothschild, would rather have ten smaller ones.

Mr. Wilder said that if one-half the varieties on the list prove as desirable as we know they will, we have got some valuable information.

The Chairman thought there were not ten varieties on the list that were not desirable for general cultivation. La France and Baronne Maynard, are both tender, and so are all the white Hybrid Perpetuals. If roses are wanted to peg down in beds, those with withy shoots should be selected.

Mr. Wood asked if we could not select twelve or eighteen perpetual bloomers from the list.

The Chairman replied that we could; many of them are more constant bloomers than others.

Mr. Strong said that while all think the list a valuable one, it must be taken with exceptions; but the public will take it just as it is. It would be better to publish it with comments, and the same with the lists of trees and shrubs; otherwise the public will be misled. There are many roses not on it, that are more valuable than those recommended, such as Gen. Jacqueminot and Triomphe d'Angers.

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irman said that if we could strike out half a dozen
om the list, it would be a safe one, though there are
that he would not plant, but would prefer new varieties.
ey said that if a customer should order twelve plants of
, he could not recommend them, and it would be un-
or him to differ from the Society. Mme. Nachury is
t Mr. Gray's. Jules Margottin and La Reine are well
kinds, with which no fault can be found. De la Grif-
old rose, of which the speaker has a plant that bears
and flowers. Such roses are like rhododendrons,
aluable for their masses of bloom. Col. Wilder would
end a pear after only two years trial, and roses, also,
to test their value.
h said that he found no difficulty in growing La France,
t down and covering with leaves. If we can grow a
ul thing with a little extra attention, we had better

er said that the agapanthus and the hydrangea may
the open ground by being thoroughly protected with
aw during the winter.
man said that if any one expected to let Hybrid Per-
run wild, like blueberry bushes, and get good flowers,
disappointed. In all our discussions of roses, it has
for granted that they would have good culture. They

l said that he did not question the judgment of the
but he would like, first, a list of twelve roses best
general cultivation; second, a list of twelve continual
nd, third, a list of the twelve most promising new
present list is valuable, but gives no information as to
us blooming of the varieties named.
rman said there were not more than seven or eight
list that could possibly prove a failure on the ground
s. As to the first two, all white Hybrid Perpetuals
nder than the colored. No rose is first class in all
aroness Rothschild is slightly tender, but he earths it
no trouble. La France is the most tender variety on
ne grows and winters it. Xavier Olibo is of the most
or, but not a good grower. Growth was one of the
lered by the Committee. Louis Van Houtte, in dry,

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sheltered places, is all right, but in a wet place is bad. La France might be the same. He did not agree wholly with the report, but could not expect to have his own way all the time. The Committee went through the whole list of roses, and when a name was called, each member marked independently of the others, and the markings were then compared. The Committee of five were unanimous with regard to twenty or twenty-five out of the forty-eight varieties recommended, and the others had four or three votes. It does not take so long a time to test roses as pears; their value can be judged of in three or four years.

Mr. Wetherell moved that the list be recommitted with instructions to indicate the freest bloomers, and those most desirable for bedding; and to add a list of the most promising new roses, and this motion was carried.

A vote of thanks to the Chairman and members of the Committee on Publication and Discussion, for the faithful manner in which they had discharged their duties, was unanimously passed.

The meeting was then dissolved.

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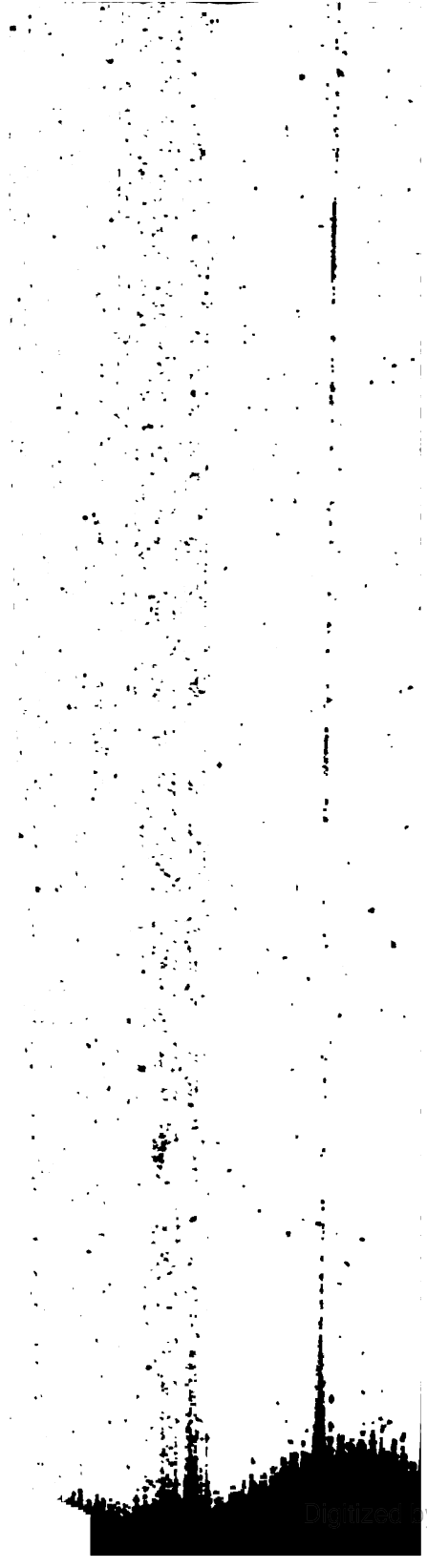

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A HISTORY

OF

AMERICAN HORTICULTURE.

The attention of Trustees and Librarians of Public Libraries, and of Horticulturists generally, is called to the History of the Massachusetts Horticultural Society, for fifty years, from its foundation in 1829. This work will be found of general interest, as the introduction comprises a sketch much fuller than exists elsewhere, of the History of Horticulture in the United States, from the settlement of the country to the foundation of the Society, and the history of the Society onward is, in the language of President Hovey, in his address at the dedication of the present Hall of the Society, "the History of Horticulture in our country." It is handsomely printed, on an extra quality of paper, and embellished with a fine steel engraving of Gen. H. A. S. Dearborn, the first president, and heliotypes of the two Halls erected by the Society. Among other interesting matters, it contains an account of the foundation by the Society, of Mount Auburn Cemetery, the parent of all similar cemeteries in the country.

The work is furnished to members of the Society at cost, $2.50, and to others than members for $3, but will be supplied to public libraries and booksellers at the same price as to members. Please address the Secretary of the Society, at Horticultural Hall, Boston.

ROBERT MANNING,
Secretary.

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ACTIONS

F THE

Horticultural Society,

YEAR 1881.

RT II.

OSTON:
OR THE SOCIETY.
1882.

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;ACTIONS

OF THE

Horticultural Society,

E YEAR 1881.

ART II.

BOSTON:
FOR THE SOCIETY.
1882.

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ɔation and Discussion, take this oppor-
ave heretofore stated,—that the Society
ble for the certainty of the statements,
ɔns, or the accuracy of the nomenclature
ons now or before published, all of
lit or judgment of the respective writers
dertaking only to present these papers
stance of them, correctly. The award
an Essay is not to be understood as
tee approve it in every particular, but
lculated, *on the whole*, to promote the
ıre.

BENJAMIN G. SMITH, *Chairman.*

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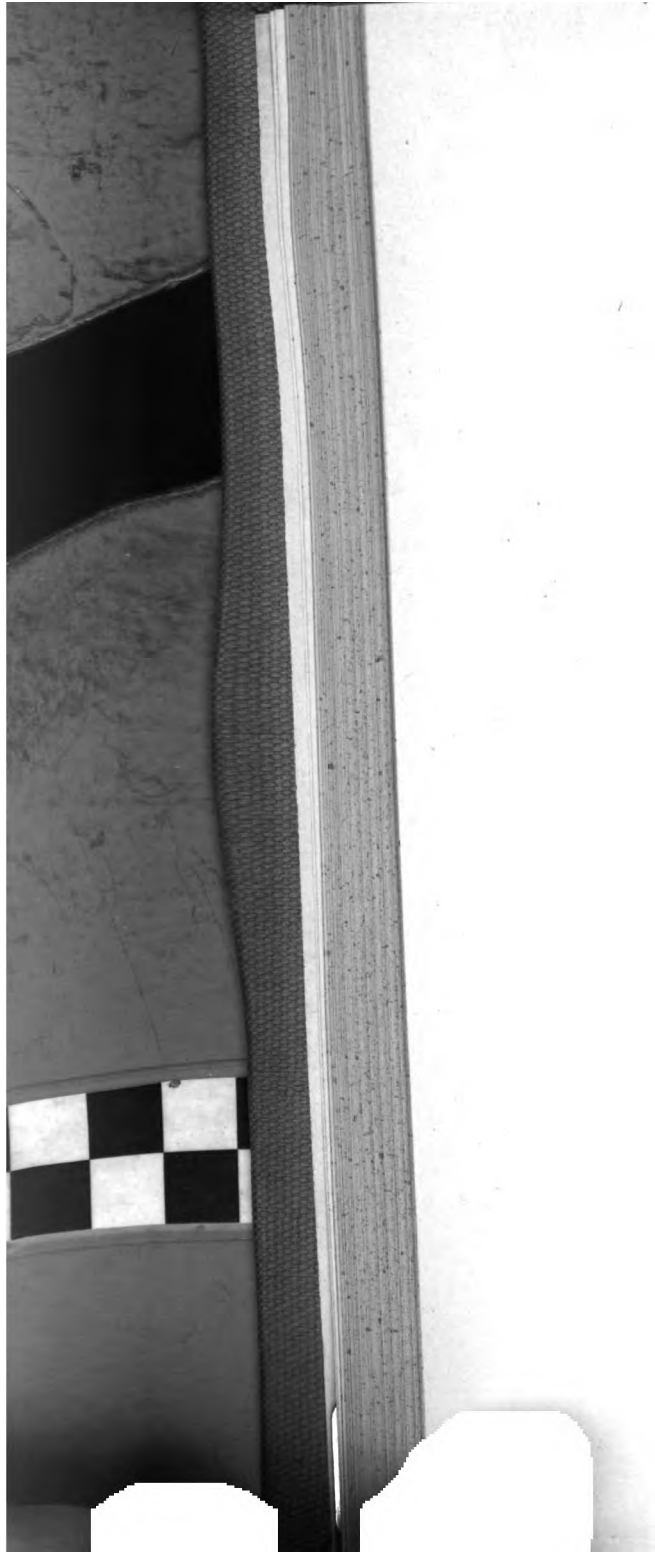

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SACTIONS

OF THE

Horticultural Society.

NESS MEETING.

SATURDAY, April 2, 1881.

meeting was holden at 11 o'clock, the . Hayes, in the chair.

r presented to the Society six copies of sion in 1879 of the American Pomologi- s President. The thanks of the Society therefor.

iations, having been approved by the e unanimously voted: —

ar 1881, ...	$3,050
mittee, for the purchase of spapers, binding of books, enses of the Committee, .	200
n Publication and Discus-	150
the Committee of Arrange-	250

Constitution and By-Laws, proposed at Society on the 1st of January, and then the records, came up for final action, and, the President, was unanimously adopted,

enth and sixteenth sections of the Consti- his Society be amended by striking out in

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the thirteenth section the words, "He shall also act as Superintendent of the Building, subject to the orders of the Finance Committee, and shall attend to the care and letting of the same, and the collection of rents, and other income of the Society." And, also, in the same section, strike out the words, "He shall also act as Librarian under the direction of the Library Committee." And strike out in the sixteenth section, after the word "appoint," in the sixth line of the printed copy of the By-Laws, the words, "A Treasurer and a Secretary of the Society," and insert, after the words in the seventh and eighth lines of said copy, "Whenever a vacancy shall occur," the words, "A Treasurer, a Secretary, a Superintendent of the Building, and a Librarian of the Society, and define their respective duties, except when these are determined by the By-Laws."

Adjourned to Saturday, May 7.

BUSINESS MEETING.

SATURDAY, May 7, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. Francis B. Hayes, in the chair.

Hon. Marshall P. Wilder, Chairman of the Committee appointed at the meeting on the 5th of March to prepare resolutions in memory of George B. Emerson, LL.D., Hon. John C. Gray, Henry Vandine, and E. F. Washburn, reported as follows:—

Resolved, That in the decease of George B. Emerson, LL.D, there has been removed from our circle one who has been an active promoter of educational development, and a devoted friend of horticultural art. Engaged during his whole life in the great work of public education, he still found hours of leisure to practically illustrate the pursuit he loved so well, and which he considered of such importance to the development of the industry and the greatest interests of our State.

Resolved, That in his labors as one of the Commissioners for an Agricultural Survey of the State, and in his elaborate Report on the Trees and Shrubs of Massachusetts, we recognize the intelli-

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nd fidelity with which he discharged his
of that Report, which was one of his latest
and to the State which he so well served.
bted for the advice which led to the foun-
boretum.

educator and instructor, a representative
ored citizen, a kind friend, and a sincere
leath is a public loss. Our consolation is
ripe age when all must cease from earthly
ere few could look back on a life better
heir fellow men.

removal by death of the Hon. John C.
f the first board of Vice-Presidents of this
n the loss of one who, in its early history,
is influence and addresses to its advance-

ld in grateful remembrance his valuable
terraculture, not only in this Society, but
sachusetts Society for Promoting Agricul-
er official services in connection with the
f the institutions of this city.

the decease of Henry Vandine, of Cam-
lest of our members. Mr. Vandine, who
, was fond of rural life, and was a suc-
s, especially the plum and pear, as may
f the Society. Of the plum he made
s were unable, from lack of skill or of
As a man, Mr. Vandine was singularly
his manners, gentle in his disposition,
ires for the advancement and welfare of
l made special bequests for that purpose.

h the deepest regret that we have heard
nd and fellow member, E. Fred Wash-

long and well on many of its most
one of which, that on Plants and
r for ten years, and all who were asso-
member his cheerful countenance, kind
tion.

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Resolved, That these proceedings be entered on the records of the Society, and that copies of the same be forwarded to the respective relatives of the deceased.

MARSHALL P. WILDER,
CHARLES M. HOVEY,
WILLIAM C. STRONG,
JOHN C. HOVEY,
} *Committee.*

President Hayes said that he was well acquainted with Mr. Emerson, having been early attracted to him by his courteous and benevolent manners and his interest in horticulture. He spoke of the pleasure which he had in a visit from Mr. Emerson to his grounds at Lexington, and of the careful observations and valuable suggestions which Mr. Emerson made. He was particularly interested in the oaks and maples, as well as in native shrubs. He did not lose his interest in planting with age, but after he was eighty years old he planted ten thousand trees, and exchanged new and rare trees with President Hayes. He not only took pleasure himself in planting, but in looking forward to the enjoyment by others of the results of his labors.

Hon. Marshall P. Wilder also spoke of Mr. Emerson's deep interest in trees and shrubs, and said that his first report on the trees and shrubs of Massachusetts was a most remarkable volume, prepared with great practical knowledge of the subject. Soon after the establishment of the State Board of Agriculture he was appointed Chairman of a Committee — of which Charles L. Flint, Secretary of the Board, and the speaker were the other members — to prepare a book on agriculture for common schools. He was the founder, in one sense, of the Arboretum connected with Harvard College, having been a trustee of Mr. Arnold's bequest to promote the culture of trees and shrubs in such manner as he thought best. His interest in this subject pervaded his whole life.

The report was accepted and the resolutions were unanimously passed.

The Secretary announced the decease of Hon. Andrews Breed, of Lancaster, one of the founders of the Society, and Robert Manning, Marshall P. Wilder, and John G. Barker were appointed by the Chair a Committee to prepare memorial resolutions.

The following named persons, having been recommended by the

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ere, on ballot, duly elected members of

HAN, of Chicago, Ill.
. FOWLE, of Dorchester.
SMITH, of Andover.
RORER, of Natick.
. GOULD, of Jamaica Plain.
. FOWLE, of Jamaica Plain.

, June 4.

INESS MEETING.

SATURDAY, June 4, 1881.

of the Society was holden at 11 o'clock,
cis B. Hayes, in the chair.

rman of the Committee appointed at the
resolutions in memory of Hon. Andrews
wing:—

rticultural Society have learned with deep
the Hon. Andrews Breed, one of the
therefore

uld place on record our appreciation of
ose who, more than fifty-two years ago,
t meeting held to form a horticultural
ched its growth from that small beginning
important and beneficent institution, and
rk continued through his active business
t of his later years, and ceased only with

is labors for the promotion of horticulture
n, not only in his own garden, but for the
mmon, where the people walk under the
the forest with his own hands and planted
ur tribute to his industry, perseverance,
business enterprise; to his public spirit,
d his untiring zeal in all that tended to
he community. He was a tried and true

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friend, and his kindness and courtesy were displayed to all with whom he came in contact. His fellow citizens testified their esteem for him, and their confidence in him, by electing him chief magistrate of their city, and by frequently calling him to positions of trust.

Resolved, That while we mourn the loss of a good man, we are consoled by the thought that his death was not untimely, but that he lived to a good old age to benefit his fellow men, and rejoiced many years in the prosperity of this Society, which he helped to establish, and that he has left two generations of descendants who inherit his love for horticulture, and practise the art which it is the object of this Society to promote.

Resolved, That these resolutions be entered on our records, and that a copy be transmitted to the family of Mr. Breed.

ROBERT MANNING,
MARSHALL P. WILDER,
JOHN G. BARKER,
} *Committee.*

After remarks by Hon. Marshall P. Wilder the resolutions were unanimously passed.

Mr. Wilder presented the following letter from the family of George B. Emerson, LL.D., which was read by the Secretary:—

GENTLEMEN,—

Mr. Lowell and I are very much gratified by the appreciative and thoughtful notice of my dear father at the late meeting of the Massachusetts Horticultural Society, and thank you for your kindness in drawing up and sending to us the resolutions, which give us a great deal of pleasure and consolation. My father found so much of the happiness of his very happy life in the study of the works of God, especially in plants, flowers, and trees, that it is very delightful to me to be assured that his services were appreciated by a society like yours, in which he was always so deeply interested.

With respectful thanks to you all, I am

Very sincerely yours,

LUCY B. LOWELL.

To Hon. Marshall P. Wilder.
Charles M. Hovey.
William C. Strong.
John C. Hovey.

CHESTNUT HILL, May 13, 1881.

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d from John C. Gray, nephew of the late
lging, in behalf of the family, the receipt
d by the Society in memory of his uncle,
t the sentiments expressed in regard to
whose proceedings he took so warm an

lled the attention of the Society to the
Cup," which had been won by him for the
for roses, was again to be competed for.

following letter:

Boston, June 2d, 1881.

man Executive Committee:

ee years of constant business activity,
have been spent in the service of this
retirement and rest.

ou my resignation of the office of Treas-
n my successor shall be appointed and

assure you that my interest in the wel-
individual members, will not be broken.

Respectfully,

E. W. BUSWELL.

at the Executive Committee had accepted
, and had appointed George W. Fowle,
er of the Society and Superintendent of

er moved that a committee of three be
onsider what acknowledgment should be
urer for his services. The motion was
he chair appointed Mr. Wilder, Charles
Gray, Jr., as that Committee.

ed that the Executive Committee had
the Society, Robert Manning, to the

solved.

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BUSINESS MEETING.

SATURDAY, July 2, 1881.

A stated meeting of the Society was duly notified for 11 o'clock today, and the President was in the chair, but no quorum was present, and the meeting

Adjourned to Saturday, August 6.

BUSINESS MEETING.

SATURDAY, August 6, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. Francis B. Hayes, in the chair.

William C. Strong moved to rescind the vote passed September 13, 1879, that the President and Vice-Presidents should be ineligible for more than one reëlection.

The President here retired, after calling Ex-President Hon. Marshall P. Wilder to the chair. Mr. Strong's motion was seconded by Aaron D. Capen, and unanimously passed, and the President resumed the chair.

The President reported from the Executive and Finance Committees, to whom the repairs and alterations of the building were intrusted, that the repairs of the halls would be completed before the Annual Exhibition, which was to commence on the 13th of September.

Agreeably to the Constitution and By-Laws the President reported the following Committee to nominate suitable candidates for the various offices of the Society for the ensuing year,—William Gray, Jr., William H. Spooner, Charles H. B. Breck, Charles N. Brackett, Charles M. Atkinson, Charles F. Curtis, John C. Hovey.

On motion of Charles M. Hovey, Mr. Hovey, Hon. Marshall P. Wilder, and Robert Manning were appointed a Committee to nominate twenty delegates to the meeting of the American Pomological

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, with power to add to their number or

ɜons, having been recommended by the
on ballot duly elected members of the

RN, of Hyde Park.
VEUR, of New York.
, of Belmont.
Brookline.
ER, of Dorchester.
.IS, of Grantville.
Queens, N. Y.
T, of Concord.
RUDDICK, of South Boston.
ES, of North Easton.
f Springfield.
.D, of Belmont.

ɨeptember 3.

ESS MEETING.

SATURDAY, September 3, 1881.

the Society was holden at 11 o'clock,
B. Hayes, in the chair.

n the Committee to nominate officers
the report of that Committee.
ıarles O. Whitmore, who at the end of
fifteen years of service as Chairman of
ving previously been for five years a
had declined a reëlection, and Hon.
asion to speak of Mr. Whitmore's ser-
lly in purchasing the site and securing
's present building, which probably
but for the steadfast and indomitable
ɔre, who never wavered in the belief
ɨd was for the interest of the Society.

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The report of the Committee was laid on the table and it was voted that the Committee be continued and requested to nominate candidates in place of any who might decline before the election.

Charles M. Hovey, Chairman of the Committee appointed at the last meeting to nominate a list of delegates to the meeting of the American Pomological Society, to be held in this city September 14–16, reported the following, which was accepted :

President, Francis B. Hayes, Chairman.

Marshall P. Wilder,	Charles F. Curtis,
Charles M. Hovey,	J. W. Manning,
James F. C. Hyde,	O. B. Hadwen,
William C. Strong,	P. B. Hovey,
William Gray, Jr.,	Warren Fenno,
C. O. Whitmore,	John C. Hovey,
John B. Moore,	Charles H. Hovey,
John Cummings,	J. H. Woodford,
Benjamin G. Smith,	Charles N. Brackett,
F. L. Ames,	John G. Barker,
C. H. B. Breck,	E. W. Buswell,
Robert Manning,	Samuel Hartwell,
Hervey Davis,	E. P. Richardson,
E. W. Wood,	William H. Hunt.

Hon. Marshall P. Wilder, Chairman of the Committee appointed June 4th, to consider what acknowledgment should be made to the retiring Treasurer, for his services, reported as follows :

The Committee to whom was referred the matter of an acknowledgment of the services of the late Treasurer of the Society, Edwin W. Buswell, report

That, in consideration of the long and varied services of Mr. Edwin W. Buswell in the several offices which he has held in the Massachusetts Horticultural Society, they recommend that a gratuity be presented to him of five hundred dollars.

MARSHALL P. WILDER,
CHARLES O. WHITMORE,
WILLIAM GRAY, JR.,
} *Committee.*

The report was accepted.

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persons, having been recommended by the
for membership in the Society, were, on

CROSBY, of Jamaica Plain.
ERCE, of Boston.
ILLARD, of Middletown, R. I.

dissolved.

SINESS MEETING.

SATURDAY, October 1, 1881.

he Society, being the annual meeting for
holden at 11 o'clock, the President, Hon.
chair.

ary stated that the requirements of the
, in regard to notice of the meeting, had

enjamin G. Smith, John G. Barker, and
ittee to receive, assort, and count the
e number.
at eighteen minutes past eleven o'clock.

ersons were proposed for membership in
han, of Chelsea, and Christopher H.
e W. Fowle; Rev. B. Judson, of West
Robert Elder, of Watertown, by John
r, of Saratoga Springs, N. Y., by H.
Woods, of Dorchester, Hon. James P.
oseph G. Ray, Edgar R. Ray, James
, all of Franklin, by Hon. Marshall P.

made appropriate mention of the long
ing in 1862), of Charles O. Whitmore,
f the Finance Committee, and of his
that position, and moved that a com-
ider what acknowledgment should be

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made to Mr. Whitmore for his services. The motion was carried, and the Chair appointed as that Committee, Hon. Marshall P. Wilder, C. H. B. Breck, and William Gray, Jr.

Mr. Wilder also announced the decease of Samuel Downer, a son of one of the founders of the Society and himself an old and active member, and moved the appointment of a committee to prepare memorial resolutions. This motion was carried, and the Chair appointed Mr. Wilder, Aaron D. Capen, and Rev. A. B. Muzzey, as that Committee.

Dr. John A. Warder, of Cincinnati, Ohio, President of the Ohio State Horticultural Society, and a Corresponding Member of this Society, who was present, was called on by the President to address the meeting. Dr. Warder, who is also President of the American Forestry Association, and deeply interested in the promotion of arboriculture, spoke on that subject, substantially as follows:

Address of Dr. John A. Warder, on Arboriculture.

Dr. Warder said that western people when they cross the Alleghanies do not feel that they have anything to tell—they look to the east for light. Agriculture—and horticulture, which is a branch of agriculture—are complex subjects, and while in parts of our country the pioneers are engaged in cutting down the forest to plant grain, in other parts the necessity of planting timber trees is, or will soon be, felt. He thought that this climacteric is fast approaching, and had come to Massachusetts to see what he could of interest in this branch of agriculture, and intended this afternoon to visit the estate of Ben: Perley Poore, at West Newbury, and see his young plantations of white ash and white pine, and his famous premium oaks. He had visited the plantations of the Messrs. Fay, at Lynn and Wood's Holl, and viewed the extensive plantations of pitch-pine and cranberries on sandy Cape Cod. Though on that wretched soil there could be no noble oaks, poplars, or catalpas, Nature provides a tree for every peculiar condition of soil or climate, and on these poor lands the *Pinus rigida* or pitch-pine flourishes—not, however, growing large enough for timber, but very soon yielding valuable firewood. In the rich soils of some parts of the country the weeds would overcome the young trees planted in them, but there no such trouble is experienced. Wherever it is

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ble to plant trees they must be shown the

f the Arnold Arboretum, recommends Amer-
sirable for planting, and Dr. Warder agreed
most likely to be successful, but would not
foreign origin. The *Ailanthus glandulosa*,
some years ago as an ornamental tree, is
gely for timber, and though the speaker had
nd well so far north, it has proved otherwise.
value; it is not strong, but takes a good
good where a quiet tone is desired.

State there are large trees of the *Catalpa*
n between this and the eastern form was first
on of the speaker in 1853, and noticed by
orticultural Review," which he then edited.
ence in calling it a distinct species, but
a distinct variety it should be called *Ca-*
sa. It is now recognized as a species, and
ed it as his hobby. It has been dissemi-
nnati, and is now grown by the million, at
nds, Robert Douglas & Sons, Waukegan,
at of this species is but a few hundred
tree is of very rapid growth and it is use-
ng, but its great value as a timber tree
l until lately. It is very durable, there
fence posts of this timber enduring for
eral Harrison, when at Vincennes, learned
and Indians, but did not know that it
n twenty years it will make three railroad
nnewell, Esq., of Boston, has contracted
Waukegan, for the planting of several
in Kansas. The soil is broken up and
e year or more before setting out the
ed four feet apart, taking nearly three
Mr. Douglas agrees to furnish the trees
for three cents each, until they are old
mselves.

Leander Wetherell, Dr. Warder said that
nost successful evergreen at the West;
s no evergreen should be planted first.

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The cheap trees, like the cottonwoods, must come first, to afford protection to the more valuable kinds. The adaptation of the European larch to the West, is not yet determined. The speaker found when in Germany, that two grades of this lumber were recognized there. One, growing in low grounds, is inferior, but that which grows in Alpine regions is valuable. In Styria he saw larch trees cut for railroad ties for the Viceroy of Egypt, who was to pay one dollar for each tie. In the West it generally grows well enough, but when less than twenty years old, though it blossoms and fills out its cones, it does not pefect its seeds. The conditions required for perfecting a species are numerous, and Mr. Sargent has laid it down as an axiom that no tree will be of permanent value in a region where it does not perfect its seed.

European rules of forestry, which direct to plant young trees without ploughing the land, are not adapted to the rich soils of the West. There the plantation must be tilled for three years, by which time it will be found that the trees have taken possession. After the prairie has been broken up and tilled for a year or two, it is furrowed both ways, and the trees are planted at the intersections of the furrows. If not tilled, the grass and weeds would soon smother the young trees. The cost of planting varies; cottonwoods, from the river bars in the West, are sold at the rate of one hundred dollars per *million*. When planted closely, they run up and require little trimming. The early settlers failed in their planting from not recognizing the difference in the requirements of their rich soils and the poorer lands of Europe. Now the sod is broken and cultivated in corn for a year before planting. It pays to cultivate the soil and keep it loose, so as to give the young trees a start.

President Hayes alluded to a visit which he received from the late George B. Emerson, who expressed great pleasure in seeing that he had preserved the native pitch pines. No tree has so much variety and picturesqueness as this; there are no two alike, and they are, therefore, valuable for ornament.

Dr. Warder said, in answer to an inquiry by Mr. Wetherell, whether a man could afford to grow forest trees on tillable land, that if one wants to make a large per cent. at once, he had better plant corn, but on every farm there are waste places, where in thirty years a good crop of trees could be grown. The black locust is ready for the axe in thirty years. At from twenty to

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t has yielded a thousand dollars per acre in

spoke of an Illinois farmer, who said that as
e corn enough on an acre to pay for a year's
eferred to do it, rather than to cut and haul

at Mr. Wetherell's suggestion was a practical
farmers say they cannot afford to devote
they ignore the general beneficial effect. In
fewer trees than in Illinois, — in some parts
e of wood to a square mile, — the need of
ongly. One man there has planted them
I found that when one-fifth of his ground is
larger than if the whole were in grain.
iry as to the climatic effects of trees, Dr.
question is a very large one. The Romans
in France, and died when pursuing their
and Austria, the countries from which we
vines. In Spain the population is diminish-
val of forests. Great changes have been
e removal and the planting of trees. The
f forests on the rainfall, is also very wide,
ted up by meteorologists. Not only the
of a climate between falls of rain, is
that this is increased by the presence of
f a good rain when it falls on the ground?
with trees, a south wind would dry it up
an in one furnished with a proper pro-
lies our danger in the dry climate of the

hat when in Madrid, he was astonished at
ess of the hills around that city and the
fortably cold there; the east winds were
a few years afterwards he went to Ger-
nted with one of the government foresters
ing to see how all the trees were taken
hat for every tree taken away another

ne great element of destruction to the
heep which ate up even the seeds of the

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trees. The same cause is now operating to destroy the forests in the Sierras of California. The Moors in Spain believed with Mahomet, that the *trees were fathers to the rain.*

On behalf of his western associates, recently here, Dr. Warder desired to express heartfelt thanks to the members of this Society for the courteous hospitalities that had, on every hand, been bestowed upon the visitors.

Hon. Marshall P. Wilder, as President of the American Pomological Society, expressed his gratification at the elegant preparations made for the reception and accommodation of that Society during its meeting in this city, from the 14th to the 16th of September, and especially for the banquet given it by the Horticultural Society.

The polls were closed at eighteen minutes past twelve o'clock, and the Committee to receive, assort, and count the votes, reported the whole number to be fifty-three, and that all the persons whose names were on the ticket presented by the Nominating Committee were chosen. These persons were, agreeably to the Constitution and By-Laws, declared by the President to have a majority of votes, and to be elected Officers and Standing Committees of the Society for the year 1882.

Adjourned to Saturday, November 5.

BUSINESS MEETING.

SATURDAY, November 5, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. Francis B. Hayes, in the chair.

The President, as Chairman of the Executive Committee, reported a recommendation that the appropriations for Prizes, and for the Committees on the Library, on Publication and Discussion, and of Arrangements, for 1882, be the same as the present year, viz.:—

For Prizes, ...	$3,050
For the Library Committee, for the purchase of magazines and newspapers, binding of books, and incidental expenses of the Committee, .	200

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tee on Publication and Discus-
. . . . . $150
s of the Committee of Arrange-
. 250
ıccepted, and, agreeably to the Constitution
id over until the stated meeting in January.

Wilder appropriately announced the decease
mory Lowell, a son of the late Hon. John
at the first meeting held to form this Society,
inal Member and a benefactor of the Society,
intment of a committee to prepare memorial
ion was carried, and the chair appointed, as
Wilder, William Gray, Jr., and C. H. B.

man of the Committee to prepare resolutions
Downer, made the following report: —
Committee to whom was referred the duty
s in regard to the memory of Samuel Dow-
the following: —
e death of Samuel Downer, junior, — as his
ur records, — one of our oldest Life Mem-
s Horticultural Society have to mourn the
and promoter of the objects of our associa-
her was one of the Founders of our institu-
y the generosity of our lamented friend,
our hall. Samuel Downer, junior, whose
ed his father's love for horticulture, and
ndition, the old homestead to the day of
elf formerly a successful cultivator, exhib-
fruits, particularly of the pear, and was
n of the Semi-Centennial Anniversary of

an upright, energetic, and enterprising
ıd proprietor of the extensive kerosene
ıd to him, more than to any other man,
land, if not the whole country, indebted
eneral use of this manufacture. He was
se, but felt a lively interest in the welfare
Melville Gardens, at Downer's Landing,
and from a desire for a place of recrea-

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tion where all could resort without fear of meeting any but pure and good influences. This object was very near his heart, and only a few weeks before his death he expressed, to one of this Committee, his intention to make it more and more worthy of the approbation of the public. But more than this, Mr. Downer was early associated with the friends of freedom and the emancipation of the slave, and a few years ago held, at Downer's Landing, a reunion of them and the old Free-Soilers, of whom he was one, an account of which was published.

Resolved, That a copy of these proceedings be forwarded to the family of the deceased.

The report was accepted, and the resolutions were unanimously passed.

The President reported the following votes, recommended by the Executive Committee, which were unanimously passed:—

Voted, That it is the opinion of the Massachusetts Horticultural Society that the proposed arrangement between Harvard College and the City of Boston, for the joint occupancy of the Arnold Arboretum, will give to the City of Boston, and the whole country, a free educational institution of great value, through which the popular taste for the cultivation and study of trees and the science of Forestry, will be fostered and increased.

Voted, That the Secretary send a copy of the above to the Honorable the City Council of the City of Boston.

The following named persons, having been recommended by the Executive Committee, were, on ballot, duly elected members of the Society.

THOMAS STRAHAN, of Chelsea.
CHRISTOPHER H. STARR, of Boston.
REV. B. JUDKINS, of West Dedham.
HENRY WOODS, of Dorchester.
S. F. TERWILLIGER, of Saratoga Springs, N. Y.
HON. JAMES P. RAY, of Franklin.
FRANK B. RAY, " "
HON. JOSEPH G. RAY, " "
EDGAR K. RAY, " "
JAMES F. RAY, " "
WILLIAM F. RAY, " "
CHARLES J. LEE, of Dorchester.

Adjourned to Saturday, December 3.

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BUSINESS MEETING.

SATURDAY, December 3, 1881.

ing of the Society was holden at 11 o'clock,
s, President, in the chair.

Wilder, Chairman of the Committee to pre-
mory of Hon. John Amory Lowell, made the

hom was referred the duty of preparing res-
ıe decease of the Hon. John Amory Lowell,

e death of John Amory Lowell, this Society
st and most highly respected associates—
nbers, who subscribed before its organiza-
rch, 1829—and the worthy son of him who
its interests and the agriculture and horti-
l.
ıall ever cherish in our memories the recol-
interest in the objects of this Society, his
eminent usefulness, and his generous im-
happiness of his fellow men. As one of
oters of New England manufactures, the
f the Lowell Institute, the benefactor him-
her associations, his name will long be
for these, but for his generous and con-
he best interests of our city, state, and
y,—an upright man, a Christian gentle-
itizen.
roceedings be entered on our records, and
ıt to the family of the deceased.

MARSHALL P. WILDER,
Chairman of Committee.

at he was most happy to bear his tribute
owell's character. Before his admission

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to the bar, and since then, he had been acquainted with Mr. Lowell, and had the opportunity of knowing him and what subjects he was most deeply interested in. He knew him as a business man, as a donor to our benevolent and scientific institutions, as one of the chief pillars and benefactors of the Church of King's Chapel, and a most valuable member of the community. He not only took a deep interest in horticulture, but was himself an eminent botanist, having a large herbarium of his own collecting. By his will he bequeathed $20,000 to the Botanic Garden connected with Harvard College. For many years he had been one of the Fellows of the College, and it is through his services and his interest in the Botanic Garden that it occupies its proud position, with the first botanist in the world at its head.

Mr. Wilder said that the Hon. John Lowell, the father of John Amory Lowell, presided at the first meeting held to form this Society; and his father, Judge John Lowell, was well known for his rural tastes, and had a garden in Roxbury which was inherited by his son. John Amory Lowell inherited a taste for horticulture from his father and grandfather, but had not time to practise it, and therefore presented his collection of plants and his horticultural and botanical library to the Botanic Garden. His heart was always open to appeals in behalf of every good work.

Charles M. Hovey said that he was happy to be present, and to have the opportunity to express his concurrence in the resolutions, which express the sentiments of the Society. To Mr. Lowell, whose donation to the Society was made at a time when its resources had been heavily taxed by the erection of the first Horticultural Hall, we are indebted for much of its prosperity. Mr. Lowell was the son of one of our most enthusiastic horticulturists, who contributed to the Magazine of Horticulture, established by Mr. Hovey, and whose choice collection of plants Mr. Hovey looked over with him but a short time before his death. The donations of the son to the Botanic Garden, at Cambridge, have been such as to enable that institution to maintain its high position. Mr. Hovey congratulated the Society that it had been aided by such a man, for whose memory we shall always retain a grateful respect.

The resolutions were unanimously passed.

The Annual Report of the Committee on Plants and Flowers

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H. Spooner, Chairman, accepted, and referred
Publication.

Spooner, it was unanimously

ospective Prize of $40 for the best Seedling
plant (other than Rose, Camellia, Azalea
Hardy Rhododendron, or Hardy Azalea), be
C. Hyde, for his Seedling Gladiolus, Hyde's
ed in the Report of the Committee on Plants

t of the Committee on Fruits, was read by
n.

of the Committee on Vegetables, was read
t, Chairman.

of the Committee on Publication and Dis-
Benjamin G. Smith, Chairman.

n the Library Committee, read the Annual
tee.

ad his Annual Report as Secretary and

severally accepted and referred to the Com-

Committee on Gardens, asked further time
Report, which was granted.

ed from the Executive Committee the List
or the year 1882, with the approval of that
is laid on the table for examination by the

. KELLY, of Jamaica Plain,

d by the Executive Committee was, on
nber of the Society.

, December 10.

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BUSINESS MEETING.

SATURDAY, December 10, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, Hon. Francis B. Hayes, President, in the chair.

John O. Sargent, of Lenox, was proposed by the President, as a Life Member of the Society.

E. W. Wood, from the Committee of Arrangements, read the Annual Report of that Committee.

John G. Barker, Chairman of the Committee on Gardens, read the Annual Report of that Committee.

These reports were severally accepted and referred to the Committee on Publication.

The Schedule of Prizes for 1882, presented at the last meeting and then laid on the table, was taken up and unanimously adopted and referred to the Committee on Publication.

The President expressed his gratification at the manner in which the annual reports of the various committees, which were now concluded, had been made. They were not only promptly presented, but were admirably prepared. He spoke particularly of the commendation by the Garden Committee of Mr. Moore's peach orchard and vineyard, which he had visited himself. He could join the Committee in speaking of Mr. Moore's place as a model of neatness and good cultivation.

Benjamin G. Smith, Chairman of the Committee on Publication and Discussion, announced that the series of meetings for discussion the present season, would begin on the next Saturday with the reading of a Prize Essay by Mrs. T. L. Nelson, of Worcester, on "Our Native Plants, Adapted for Winter Culture, for their Flowers," and that on the succeeding Saturday, John Robinson, Professor of Botany and Vegetable Physiology to the Society, would read a Paper on "Ornamental Arboriculture."

John B. Moore, a member of the Committee on Publication and Discussion, added that the Committee hoped to make the discussions better than ever before, but that to do this they must have the coöperation of the members of the Society. Dr. Goessman, the Professor of Chemistry at the Agricultural College, had been invited to lecture, and the Committee trusted that during the winter we should have the pleasure of hearing from him.

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following correspondence:—

SSACHUSETTS HORTICULTURAL SOCIETY,
BOSTON, October 17, 1881.

go I had the honor to send to the Royal
oy of the History of this Society, which,
s placed in the Lindley Library. I have
ke to add to this volume the other publi-
, therefore, send a set as far as they can
they may be received as a token of the
s Society for the Royal Horticultural
rototype and exemplar of all horticultu-
in common with all other similar associ-
est obligations.

y the quarto Transactions of the Horti-
n, complete, and of the octavo Journal
r. Masters wrote me that the supply of
the Society, is quite exhausted, but if
bookseller who would be most likely to
ts, and also inform me what has been
is necessary to complete our set up to
d confer a favor on this Society.

ny parts of Lindley's Folia Orchidacea
e eight parts, unbound, and supposed it
erve that the last edition of Pritzel's
. I should like, before binding, either
ain that there is no more.

table Teratology out of print? We
years ago, but have never got it.

too great a liberty in troubling you with
you will sympathize with my desire to
lete as possible. It is already the best
country, and, so far as we are informed,
ope. I can hardly hope to be able to
e favors I ask of you, but shall be very
ower.

rs respectfully,

ROBERT MANNING,
Secretary and Librarian.

ibrarian Lindley Library.

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ROYAL HORTICULTURAL SOCIETY,
KENSINGTON, S. W., November 21, 1881.

Dear Sir: I had the gratification, as Foreign Secretary, to read your letter of the 17th ult. to the Rev. George Henslow, Librarian of the Lindley Library, to the Council of the Society at its last meeting, and I was instructed in reply to express the cordial thanks of the Council of the Society and of the Trustees of the Lindley Library for your valuable donation of books. The Council is touched at the cordial manner in which you are pleased to speak of the Society and its past work, and is anxious to maintain and develop friendly relations with your Society. A new part of the Journal will be sent to you shortly, and I am to bring under your notice the fact that the Society is in a position to supply you with grafts (at the proper season), tubers of begonias, and roots and seeds of other ornamental and useful plants. Application for these should be made to the Superintendent of the Society's Garden, at Turnham Green, near London.

Five volumes of the New Series of the Journal have been published; Vol. 1, 1866; Vol. 2, 1870; Vol. 3, 1872; and Vols. 4 and 5, in 1879. Enquiries are being made for them, and if they can be procured, they shall be sent to you.

There is, I fear, little or no chance of getting the ninth part of the Folia Orchidacea, as the copies were, I believe, destroyed as waste paper.

Dr. Masters's Teratology was published by the Ray Society, and is, I believe, out of print. There is little or no chance of getting it except at an auction.

I may add that I shall be pleased to be of service to the Society or to yourself, and am sir,

Faithfully yours,
MAXWELL T. MASTERS,
Hon. Foreign Secretary,
Royal Hort. Society.

To ROBERT MANNING, ESQ.

The Secretary also announced the reception of a letter from Dr. Hermann Knoblauch, President of the Imperial Leopold-Carolinian German Academy of Naturalists, at Halle, Prussia, asking an exchange of publications.

Adjourned to Saturday, December 17.

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S MEETING.

SATURDAY, December 17, 1881.

e Society was holden at 11 o'clock,
. Hayes, in the chair. No business
ng it
cember 24.

OR DISCUSSION.

ding of the following Prize Essay by

D FOR WINTER CULTURE FOR THEIR
LOWERS.

NELSON, OF WORCESTER.

---

e bloomed and faded, and the aster
lory,—when on the hills the gorgeous
and shimmering in the hazy atmos-
the time when there will be nothing
leaf and flower; and then we gather,
h of her treasures,—our winter stores.
before us, when all out-doors is bound
it of a "winter greenery," as we sit
dreamily wanders toward the place
e are in the woods enjoying ourselves.
hes the little brook, and, by its side,
autiful as ever; we hear the rustle of
and it seems so real that it is hard to

d before it can be enjoyed. Meadows,
e to be visited and carefully searched,
indicated by a dried leaf or berry, are
which are resting, and, therefore, the
winter bloom,—for I have found, by

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carefully watching, that plants which bloom in spring and early summer are more to be relied upon for flowers in winter than later blooming ones. Of course you know that, in cultivated flowers, we select the largest and strongest bulbs and roots for winter blooming. If we wish to grow lilies for winter flowering, we select the finest bulbs, for in them is stored the perfect leaf and blossom. So in our selection of native plants—select the strongest and best, for some will fail. Surely no florist expects to bloom all the plants and bulbs that he puts in his houses; and for some unexplained reason some—in fact many—refuse to give us flowers in winter, yet they bloom abundantly in their native soil and season. I find from experience that most native plants can be grown successfully in light woody soil, with a mixture of meadow moss; and also that flat wire baskets or dishes, not more than three inches in depth, lined with moss, and filled with earth, in which to set the plants, are better than close dishes. After they are filled set them in a dish or saucer with water in it. In this way, the moss acts as an absorbent, and supplies water as the plants require it. Moss on the surface, between the plants, is useful in counteracting the dryness of the air in our living rooms—for I take it for granted that native plants are to adorn and beautify our homes; they are not often found in greenhouses. In speaking of the depth of the dishes, I am assuming that only small-growing plants are likely to be cultivated.

And now we will take a look after plants.

First, let us gather *Epigæa repens* (Trailing Arbutus). It ought to be gathered as late as possible, for the buds must be formed before gathered, and then it is not necessary to have much root; only keep the plants moist and close. I have not succeeded often in flowering it, except in a fernery or wardian case, but it is almost sure to bloom under glass, if properly gathered and how beautiful it is we all know.

Hepatica triloba and *H. acutiloba* have thick Persistent leaves, and also form their buds in autumn. I find them among the surest of winter blooming plants; in fact, they bloom in all places—in ferneries or dishes, sun or shade, their pure little blossoms appear almost before we know, or dare expect it.

Sanguinaria Canadensis (Blood-root) can be easily flowered, and although the foliage is coarse, as the flower comes before the leaf is grown, and as the plants can be forced but once, the foliage

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no consequence. The flower is pure white, and exquisitely ful.

palustris (Water Arum), our wild calla, growing in muddy ampy places, is really an attractive plant, and, having a ke *Richardia Æthiopica*, can be easily grown, and with reatment. In Massachusetts it is herbaceous, and blooms ummer.

e will look after *Arisæma triphyllum* (Jack-in-the-pulpit), es finely. You can readily find it by its bunch of intense rries. On taking away the old stalk, you will find the to start when you are ready to start it. I have seen y fine plants of it in winter; and with their stately blossom, they are really very beautiful. They grow ell in open dishes or baskets as in a fernery.

a *purpurea* (American Pitcher-plant) is easily grown y moss, and, aside from the beauty of its "pitchers" know are really the leaves of the plant), has a very r. It is found in swamps and low, moist ground.

n *Americanum* (Yellow Dog-tooth Violet) bears culti- ut will not bear the sun. It is one of the earliest and is desirable, as both flower and foliage are beau- age varies in marking; sometimes it is very much ain almost as entirely green.

houstonia cærulea has never been sung by poets, but is lovely beyond compare. Pure and innocent, et little face to our gaze, and we think of all that k down upon it. I gathered "alpine daisy" on on, and admired its lovely blossoms, but, at the a friend, that it was no more beautiful than our *houstonia*. This flower is also among the earliest hat would be easier, as it grows in clumps, than or clump, and not disturb the roots, and when bloom in winter?

s has a greenish yellow, bell-shaped, lily-like cultivated with considerable success, and all do succeed.

easily grown if you mark the place where leaves are gone, and take them up after ed. There are at least three species,—*T. rocarpum* (Painted Trillium), and *T. erectum*,

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and they are all so beautiful it is a wonder more are not bloomed in winter.

Then the *Cypripediums*. I have three species growing in my garden,—*C. parviflorum* (small yellow), *C. pubescens* (large yellow), and *C. spectabile* (pink, or pink and white). I have never flowered them in winter, but they adapt themselves so readily to the garden I take it for granted there can be no difficulty in so doing. I know that *C. spectabile* forms its buds late in the autumn under the old stalk, precisely as *Arisæma* buds are found, and that shows conclusively that one can be grown as well as the other.

Coptis trifolia (Gold-thread) is very attractive, with its dark green leaves that shine in the sun as if wet with dew. The flower is pure white, and contrasts admirably with the beautiful foliage.

Mitchella repens (Partridge berry) is one of the most charming of all our winter friends, for we get the persistent foliage, and bright scarlet berries; and then it blooms finely in the fernery (and often- times out), and we have a combination rarely found, and doubly welcome for its beauty and rarity.

Pyrola (Wintergreen) buds in autumn, and bl[illegible]oms well.

Violets are so abundant in variety, that we h[illegible]ve only to choose for ourselves; but with them, and in fact all that [illegible] have mentioned we must make a study of their individual habi[illegible], and learn how much sun, light, moisture, etc., they require, and [illegible]ive them as fair a chance as the flowers we take from our gardens. I do not believe our native plants are harder to grow, or need m[illegible]re rest and care than ordinary plants; but do you think we sho[illegible]ld take as much pains to grow one of our native Cypripediums as [illegible] do some of the imported species that are not nearly as beautiful [illegible]?

I have no doubt that many of our native s[illegible]rubs are as worth growing, both for pleasure and profit, [illegible]s the Deutzia, Spiræas, and Azaleas. *Amelanchier Canadensis* [illegible]had bush) grows and flowers so freely, there can be no doubt ab[illegible] cultivating it.

Leucothoë racemosa, if only for its mythical [illegible]elation, might be brought into notice. And what more lovely fl[illegible]er in winter than *Rhodora Canadensis*, with its rose-purple flo[illegible]wers in umbel- clusters, blooming before the leaves appear.

"Rhodora! if the sages ask thee why
This charm is wasted on the earth and sk[illegible]
Tell them, dear, that if eyes were made f[illegible]
Then Beauty is its own excuse for being:[illegible]

[illegible]eeing,

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, O rival of the rose!
k, I never knew:
norance, suppose
that brought me there brought you."

or purple wild Azalea, grows well in
n the plants are small, as does, also,
y. Both varieties are growing and
ens near me, where there is more or
that they are not particular as to soil.
growing them under glass as well as
nk, however, they should be taken up
ugh the summer and autumn, in order

adapts itself readily to our gardens,
e cultivate in them, and is more hardy.
winter bloom?
extended to be quite as long as the list
will bloom well in winter. You know,
ve plants, but only such varieties as are
. Fashion is all-powerful, and if we
able to wear, or to have on our tables,
ign varieties, how the greenhouses and
rflow with the modest flowers. Or the
, or Sanguinaria, instead of Marigolds
'somebody" starts a fashion and every-
time we look eagerly for "novelties"
r abroad, and too often we pay dearly
, do we not begin at home, and see what
e plants?

Discussion.

as called on to open the discussion on
e subject is one which has always inter-
rge number of native flowers which will
Campanula rotundifolia (Harebell) is
ers from June to November. The *As-*
Weed) is very satisfactory. Among native
cessfully cultivated in winter, are *San-*
ipedium pubescens, *Goodyera pubescens*
iloba, *Epigæa repens*, *Coptis trifolia*, and

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Viola Canadensis and other violets. The *Sarracenia purpurea* does very nicely; she had had a plant, cultivated in the house in winter, with five flowers.

E. H. Hitchings said that many have tried to cultivate the *Epigæa repens* (Trailing Arbutus), but it succeeds for only a year or two. The *Hepatica* is very easily cultivated. The speaker exhibited a plant which he found in Stoneham woods on the 5th instant— one of five which were in flower. The plant shown had the remains of three flowers, one of which probably bloomed in October and the others in November, and several buds which would probably open in a month, making the season of bloom about three months. Wild flowers were in bloom in the woods from April, 1879, to November, 1880, inclusive. Some wild flowers are improved by cultivation, among which are the *Sanguinaria Canadensis*, *Lobelia cardinalis*, and *Trillium grandiflorum*. Some, such as the Painted Trillium, are quite as handsome in fruit as in flower; and the fruit of the Nodding Trillium is more beautiful than the flower. The *Pyrolas* and *Chimaphilas* do well in cultivation, as do also *Goodyera pubescens* and *G. repens* and *Cypripedium spectabile*. Mr. Hitchings said he had several times transplanted the *Orchis spectabilis* successfully, and also *Tiarella cordifolia*, and many other native plants. *Liparis liliifolia* is one of the most delicate of the orchids; he has cultivated it in the house for several years, and it blooms every season. *Geranium Robertianum* does well in the house. *Andromeda polifolia* and *Kalmia latifolium* are shrubs which succeed well under cultivation. *Kalmia glauca* is handsomer than either of the other species; it is found growing with the two preceding. *Hibiscus Moscheutos* does well in the garden. *Habenaria blephariglottis*, *H. ciliaris* and *Calypso borealis* have been cultivated by Dr. Walcott. Mr. Hitchings closed by saying that he would like to get young people interested in collecting and cultivating native flowers.

Hon. Marshall P. Wilder expressed much pleasure in having the meeting opened by a lady, and hoped she would be successful in her efforts to inspire others with a love for the cultivation of native plants, that they might enjoy the pursuits in which she took so much pleasure. While we have collected plants from all parts of the world, and agents from all parts of the world have been here to collect our native plants, we have been tardy in cultivating them. The heat, light, soil, etc., wanted by these plants, are the secrets

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arn before we can cultivate them suc-
ear the essayist speak of the influence
flowers. Some of the most beautiful
e, and afterwards have been obliged to
ites. Among these is the camellia, of
member the time when a single flower
terwards it was set aside as coarse, but
The case is the same with the azalea.
he moral influence of the cultivation of
one with the cultivation of flowers on
er world.
he was much interested in the subject
ussion. Our native plants have been
1 he was in college he took long summer
s every Saturday with Professor Nuttall,
cientific knowledge of our native flow-
siasm in their study, and felt all the
excursions. Mr. Muzzey not only col-
ught home plants, which proved capable
amazed at the number and variety of
We have only to go a few miles to find
ve never seen before. Wild flowers are
nd it is a sin against nature to shut it
ealth, which might otherwise suffer, is
these wild flowers.
sed much pleasure in having the subject
flowers brought up for discussion, and
tee on their selection. He had been
he last five or six years in "The Gar-
a few years ago he visited George F.
ridge three times—once in March and
n puzzled, when reading in the English
sts, to know how plants could survive
en hederifolium and *C. Coum*, with the
uite hard without injury, when the tem-
s below freezing; and the reason that
at the frost was taken out by the atmos-
before the sun could reach them. After
s were just as beautiful as ever. Besides
owed him *Hepatica angulosa*, and vari-

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ous primroses; among the latter some choice seedlings, covered with bell glasses, and he took more interest in these than in his collection of greenhouse plants. At an exhibition of the London Horticultural Society, one of the most prominent objects was a collection of twenty-four varieties of primroses,—Himalayan and others. The English love all these little plants, but here we want something large and showy, like the sunflower, which is the fashionable flower at Newport. The camellia lost its popularity as much by the peculiarities of trade as from any other cause, and the price fell down to a low rate. When the florists could buy pinks and similar flowers, which would keep several days, they did not think it worth while to purchase the expensive camellia; but this helped to bring roses into fashion. Boston roses have heretofore supplied the New York market. For a long time buyers have been satisfied with Bon Silene and Safrano; but now they want Maréchal Niel, Perle des Jardins, and Gen. Jacqueminot.

Among the native flowers mentioned by the essayist, there are but two or three which the speaker has not described. *Rhexia Virginica*, which was not mentioned, is one of the most desirable. The *Erythronium*, or Dog-tooth Violet, covers the ground in his nursery. The *Asclepias tuberosa*, *Sanguinaria Canadensis*, and *Hibiscus Moscheutos* are easily cultivated, and are among the most desirable native plants. He made botanical excursions in his younger days, influenced by Professor Nuttall, and first found the blood-root in 1829 or 1830; indeed, all these native plants passed through his hands, and he tried to get others to cultivate them. He had studied the botany of the shores of Buzzard's Bay, and found a great variety of plants there,—in the limited space of six acres he found growing one hundred and seventy-five species and varieties. The native asters were not mentioned by the essayist, and have been but little cultivated. *Aster spectabilis* grows about a foot high, and is as beautiful as a Cineraria. Ferns, and the *Mitchella repens*, can be grown in the house, and are really very pretty objects during winter.

William Falconer (of the Cambridge Botanic Garden), did not think our wild flowers, excepting the Lily of the Valley and *Cypripedium spectabile*, were very amenable to winter forcing. Many of them, as violets and hepaticas, make excellent border plants, but they require to be brought slowly into bloom. Speaking of *Cypripediums*, he mentioned that though *C. spectabile* is the one usually

s useful in that direction; in fact, they
Some orchids, as *Calypso*, although very
satisactory as out-door garden plants;
hey are first rate. In answer to Mr.
ypripedium acaule does well in cultivation
it is liable to die out. With reference to
out our wild asters, he said that quite a
n in Europe for American asters. He
use of our wild plants as garden flowers,
ne handsome displays of our native lilies
s of Mr. Sargent, at Brookline, and Mr.

that when a boy he used, in driving the
out for the columbine and crowfoot. At
e number and gorgeousness of the wild
he had noticed particularly a flower of a
vise resembling a golden-rod. What we
otics abroad, and our exotics are natives
flowers become common the masses will
flowers of the same species were collected
hether they would not sport and produce

uch changes would not properly be called
orting is a change of color of part of the
, like the Abby Tryphosa Wilder camellia,
ort on the Mrs. Abby Wilder. The dis-
nd crosses, or hybrids, is often overlooked.
netimes difficult to say what are species.
thought irreverent to attempt to cross
sed the *Lilium lancifolium* with *Gloriosa*

ed to suggest one practical thing, which
lants and pot in the spring, and bloom
hey must have rest, and after growing
ould be placed in a cool cellar till about
have but little water until they get some
injure plants by saturating the soil with
no leaves to evaporate it. If properly
e covered with bunches of bloom, and the
and foliage is delightful. The plants are
oung, vigorous ones should be chosen.

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Leander Wetherell said that horticulture is the art of improving nature, and it has improved almost every species of plant. Wild flowers are very beautiful; he has often roamed over the woods in search of them, but he thought we have in our gardens what are more beautiful than natives, and that this going back to nature is a retrogression. He alluded to the difficulty of learning plant names, and said that the Society is much indebted to the ladies for the exhibitions of native plants.

J. W. Manning said that he had collected in his nursery four or five hundred varieties of native plants, but had found little demand for them. The *Rhododendron maximum* transplants very easily if small plants are chosen, and the *Kalmia latifolia* also. Mr. Dawson, at the Arnold Arboretum, has been successful in raising both these from seed. The *Kalmia latifolia* is common in the woods, but not much cultivated. It will grow in almost any soil. He knows a dozen plants in gardens in Reading which have been growing for fifteen years.

Mr. Hovey said there are people who will give more for the eglantine or sweet-brier, than for the most improved rose. In Marion, there stands a cedar tree, two hundred and fifty or three hundred years old; it is fifty feet high, and the arms spread fifty feet. He never saw anything that pleased him so much, entirely covered as it was, trunk and branch, with moss; and so we love these wild flowers for their native and ever beautiful and varied forms.

It was announced that on the next Saturday, John Robinson, Professor of Botany and Vegetable Physiology to the Society, would read a paper on "Ornamental Arboriculture."

BUSINESS MEETING.

SATURDAY, December 24, 1881.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. Francis B. Hayes, in the chair.

John B. Moore, from the Committee on Publication and Discussion, presented the following vote:

Voted, That there be offered a Prospective Prize of Fifty Dollars

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: Effect of Chemical Fertilizers on Fruits
ıg their growth and quality, the essay to
of actual experiments and results, during
he prize to be awarded at the end of the

to the Executive Committee.

y, December 31.

NG FOR DISCUSSION.

he reading of the following paper, by the
l Vegetable Physiology:

Ornamental Arboriculture.

ohn Robinson, of Salem.

ch the history of ornamental arboriculture
becomes evident that the subject will be
actual examples, rather than for lack of
en accomplished. It is only necessary to
ning, or the articles in the early horticul-
:over that ornamental tree culture received
r England, compared with that bestowed
of Philadelphia, or along the valley of the
a great measure, be attributed to the fact
ırists of this neighborhood, the founders of
icultural Society, were chiefly interested in
s and flowers. In organizing this Society,
icultural centre of New England, whose
ience has given the key-note to the horticul-
e find, therefore, established near Boston, a
fine fruits and rare flowers, to the exclusion,
any attempts to learn the secrets of tree

ornamental trees has, of course, received
individual cases for more than two centuries,
le trees in the streets of some of our oldest
n the valley of the Connecticut river, bear
hose upon a few private estates.

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The first landscape gardener to issue a special catalogue of hardy trees and shrubs suitable for our climate, was André Parmentier, of Brooklyn, L. I. He also established a scientifically arranged garden, and was the first in the United States to form a plantation illustrating the natural style of laying out grounds. At the opening of the present century, among the prominent estates where tree culture had received special attention, were Woodlands, the residence of William Hamilton, near Philadelphia; Clermont, the Hudson River estate of Chancellor Livingston, and Waltham House, near Boston, the residence of Hon. Theodore Lyman. A little later in this vicinity, the estates of Thomas Perkins and Thomas Lee, in Brookline, and John P. Cushing, of Watertown, were noticeable.

Recently, arboriculturists here have fallen into a rather too servile imitation of European examples, with the use of European trees or plants, better suited to the climate of Europe than to our own, where experiments should be based upon a careful study of trees and methods better adapted to our climate and soil.

To make a plantation which shall contain a desirable variety of trees, adapted to the situation in which they are to grow, and calculated to remain a lasting benefit, requires a knowledge of physical geography, especially that which relates to the influence of climates upon plant life. Modern science teaches us that nature has, in the countless ages of time, evolved for each and every climate a class of plants especially adapted to the influences by which they are surrounded. She has, in particular instances, by gradual and imperceptible changes, adapted groups of individuals of a species to flourish in a climate differing totally from that in which other individuals of the same species are found. Hence, individuals taken from one locality may be perfectly hardy, while other individuals of the same species, from other localities, fail utterly to endure our climate. For example, the small leaved magnolia, taken from Massachusetts or the Middle States, is perfectly hardy here, while plants of the same species brought from Florida, would not survive a single Massachusetts winter.

Under the present theory of the distribution of species, based upon a careful study of geology, our existing flora is considered, with a few rare exceptions, to have been disseminated from a common centre at the north, and to be the result of the inexorable law of the survival of the fittest species or individuals for the places

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ıy. It is useless, therefore, to attempt to
limate to which its ancestors have, for
ed, and expect it to thrive in a different
e a moment's thought to a proposition to
f the Amazon, in the pond on Boston
trees, attempts hardly less absurd have
/ because the climatic conditions of the
s been attempted to introduce them, were
from which they were taken, only being

the northern hemisphere, shows us that
ast coast of the continent of Asia is quite
North America, and that in the Pacific
Atlantic, a warm ocean current, commenc-
d flowing across the ocean, disappears at
re, the coast climate of one continent may
semble the corresponding coast climate of
ıt of fact, it does; the climate of north-
that of New England and eastern North
California and Oregon is not unlike the
ɔe. There are also, in various portions of
ions which tend to produce local climates
urrounding regions, and, in some respects,
me such districts are already known to us,
scovered.
ıcts, we may arrange in order the regions
ed to select trees for cultivation in New
ıich, unless in rare, exceptional cases, it
our collections.
s:
egion of North America, which includes
la, and extends southward to the moun-
and Alabama, and broadly to the eastern
ains.
of Asia, north of about latitude 38, and
, Manchooria, and northern Japan.
nates not sufficiently differing from that
fere with the adaptability of the plants
climate. The Central Rocky Mountain
ı, the Caucasus, Toorkistan, and possibly

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IV. To the plants from the regions already indicated may be added certain cosmopolitan species, which inhabit widely different localities and seem to flourish everywhere in the old world.

To the first of these regions, the Alleghanian, too much attention cannot be paid, for here, in a comparatively limited area, is found a more extensive collection, in number of species, of desirable forest trees than is furnished by any region of similar size in the temperate zone, with the possible exception of Japan. There are more species than is possessed by the whole continent of Europe. Neither do the trees from this region require to be experimented with to ascertain their fitness for cultivation in our grounds, for they are of our own flora. But before entering upon the southern Alleghany mountain region, where there are many species not natives of New England, we need go no farther than our own woods to find many of the most desirable trees to plant for ornament; trees which in Europe have been eagerly sought for two centuries as great prizes, but which, in our own country, have been too long neglected for general planting. What tree is more desirable, in every way, than the Sugar Maple? or for single specimens more interesting than the Hickory? Our Oaks rank among the most magnificent trees in the temperate zone, while the Tupelo, Beech, Sassafras, Hornbeam, the Birches, and the Ashes, among the deciduous trees, and the White and Red Pines and Hemlock, among the evergreens, are all valuable trees for ornamental purposes. To these may be added from among the lower growing species, the Hamamelis with its November flowers; the gorgeously fruited Sumachs; the Amelanchier, too often overlooked; the Dogwoods, including the conspicuous *Cornus florida*, and the Viburnums. All these grow naturally within twenty miles of this spot. There are, besides, in the immediate neighborhood, a number of trees, which, although not suited for all soils and situations, are, nevertheless, adapted to certain localities. Among such are the American Elm which flourishes best in the alluvial river meadows, and the true White Cedar of the low swampy lands.

As previously stated, one of the greatest storehouses for tree species in the temperate zone is the region of the southern Alleghany mountains. In Pennsylvania and the mountains southward are nearly two-score of trees, which, although belonging to the same flora as our own, are not natives of Massachusetts, but are certain to succeed in our ornamental plantations.

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Magnolia, most of which are considered
We have the Buckeyes—the red and
es, and the white flowered shrubby one;
od, fine specimens of which are now to
lder estates in this vicinity, and one
the Botanic Garden, Cambridge, over
ak two feet in diameter. There is the
rodigality of deep pink flowers, presents
appearance. Among the plants of the
les of Cratægus, one somewhat resem-
d the American Crab apple, desirable for
rketable fruit. We have the *Viburnum*
r Sheep-berry, but a larger growing tree;
tree; and the Persimmon, whose fruit
should be added to our garden products,
erves upon the exhibition tables of this
ringe tree, although frequently seen in
re extensively planted, and the Winged
the Chinquapin are not so often seen
Of the Oaks there are a large variety.
more or less common in the woods
five others which may be added from
of us, that are now seldom met with
differ in foliage and in fruit strikingly
Among them are the Willow oak, the
r Over-cup oak. This last species is
of the White oak in the value of its
poses, on account of its durability in
it resists decay seemingly longer than
. Among the conifers are the Table
ld Cypress, both of which are perfectly
probably, be added a newly discovered
and longer leaves than our own, known
the *Rhus cotinoides* (somewhat resem-
e tree) which has been lately redis-
of Alabama. From the west of this
limits of its flora, are the *Fraxinus*
of Michigan, a beautiful forest tree with
stern Catalpa, but recently distinguished
with which it has been confused. This

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last adds to our collections, without doubt, a tree at once beautiful as an ornament, and of great value on account of its almost imperishable timber. There are also at the west the *Ulmus racemosa*, and *Carya sulcata* or Western Shag-bark Hickory, both fine trees. At the north are the Gray Pine and White Spruce, the latter one of the best of its class that we can cultivate.

Were we to stop here our choice could not be considered as a limited one, for the trees of this, our own flora, are unequalled in the temperate climate for their variety, their striking beauty, and their lasting effect for cultivation in parks, lawns, or streets, where, the work of planting once accomplished, it is important that it should last, perhaps, for centuries. It is now a matter of general knowledge that we are indebted to native trees for the beautiful effects of autumnal foliage, while those of foreign introduction are but dull and sombre when our native species are in their most gorgeous raiment. This alone is no inconsiderable argument in favor of our native trees.

The second region to which we may look with the expectation of adding extensively to our collections will be, as indicated previously, Manchooria, Northern China, and Northern Japan.

There are already in cultivation from these countries a great many valuable ornamental plants, but still more may be added. Among those familiar to us from China and Manchooria, are the Wistaria, Deutzia, and Weigela, all of which are now widely distributed in our gardens, as is also, though perhaps less extensively, the *Magnolia conspicua*. Of the trees from this region, which are likely to find their way into general cultivation as they become more accessible, are several species and garden varieties of Magnolia, a Tulip tree, the *Phellodendron Amurense*, than the Chinese Tamarix, a much finer and later flowering species than the European tree, which is commonly met with in cultivation; a variety of *Acer Tartaricum*, bears deliciously fragrant blossoms. There is also the Chestnut, and several Maples, one of which, a variety of *Acer Tataricum*, bears deliciously fragrant blossoms. There is also the *Cladrastis Amurensis*, a relative of our well known Yellow-wood; a Honey Locust, a Gymnocladus resembling the corresponding American species, a Hawthorn, two Plums, an American species, two Birches; a Pterocarya, which may be described as a relative of our Hickories; besides an Oak and the Manchoorian Walnut. These are all deciduous trees. Among the conifers are the Tamarack, occasionally met with here under the name of Glyptostrobus; the Chinese

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s our own Red Cedar; the Pseudolarix,
; and two Pines, one of which, *Pinus*
inity of Peking, is at once recognized
est of this region, in Siberia, are the
a obovata, all of which are desirable

ably furnish more desirable trees for
lantations than even the continent of
ny species both of woody and herba-
cultivation from that country. Among
vn to succeed perfectly here, are sev-
ell-named species, *Acer polymorphum.*
von the admiration it deserves, and is
our collections in numerous varieties,
by the standard of beauty and their
summer sun, are much more desirable
to the maple is the *Negundo cissifolium*,
, are the Sophora, and the curiously
lreuteria. Two Apples and the Idesia
ere may also be added a Chestnut, a
ch have proved satisfactory, besides the
he Zelkowa, an Ash, two Birches, and
, although no doubt exists regarding
et been in cultivation here long enough

Among the Japanese conifers we find
uitable for our purposes—far more than
er region. Of the Pines there are three
Pinus densiflora, has been introduced
Massoniana, which belongs to a more
not, probably, hardy with us. There
k closely resembling our own, a Larch,
Sciadopitys), already thoroughly tested
a long list of Retinosporas which some
l under the old genus, Thuja. They are
r true white cedar than any other New
f the varieties of the Retinosporas, of
mber in cultivation, are very graceful and
e permanency of these varieties not much
rvation proves many of them to be but
own species, which, as they grow older,

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change their characters and take the normal forms. Carrière, a French writer on the Coniferæ, has happily called them the "larval forms" of the mature plants. All the Retinosporas of our gardens may probably be referred to two or three typical species, although some of the varieties may prove more permanent than others.

The cultivation of ornamental plants has been practiced in Asiatic countries for a great length of time, and, hence more garden varieties may be expected from this region than from almost any other. In fact, with many plants from these countries, it is often difficult to determine what is the typical form of the species, or its original habitat.

Of the Asiatic conifers, the Gingko has probably been cultivated here longer than any other species, the tree on Boston Common, being, at least, fifty years old. It has usually been considered a native of Japan, but, recently, this has been doubted. Dr. Masters, in a paper "On the Conifers of Japan" (Linn. Soc. Jour., Bot., Vol. XVIII., read Dec. 2, 1880), says, in reference to the distribution of species:—

"Before leaving the subject of the distribution of Japanese Conifers, a word may be said as to the occurrence of certain trees (often of peculiar organization), in the immediate vicinity of the temples in Japan, China, Thibet, etc. In some of these cases, the trees are not known in a wild state, the aboriginal stocks being either extinct or lurking in some of the all but unknown districts of the Chinese Empire, Thibet, or Central Asia. Among such may be mentioned, as worthy the attention of students of Buddhist lore: *Cupressus funebris* (China, Sikkim), *Abies Fortunei* (China), *Abies Kæmpferi* (China), *Cryptomeria Japonica*, *Sciadopitys verticillata*, *Gingko biloba*, and certain species of *Pinus*."

The regions thus far considered, are the ones, and the only ones from which we may add extensively to our collections. Among the regions, where a few additional species may be found—in some cases very valuable ones—is the Rocky Mountain region of Colorado. Here many species of the Pacific flora flourish in company with eastern species, and hence, this region may be considered as the common meeting ground of the Atlantic and Pacific floras.

From this region have come two of our most desirable ornamental trees. These are the Blue Rocky Mountain Spruce and the

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ɔruce has been fairly tested here and
ere are several specimens in the vicin-
ıched the height of fifteen feet, retain-
rm. Individual specimens vary much
o the striking glaucous blue, so much

This tree is known most frequently
Abies Menziesii, hastily given it by
ld be known as *Picea pungens*. The
ɔeautiful, and is quite as hardy, having
;. From an economic point of view—
should not be lost sight of even in
ɛnt,—the Douglas Fir is one of the
ɜting in North America, and may in
ikely soon to be vacated by our native
forest culture is systematically con-
vill be a source of much profit to our
ɔ region also, have been introduced,
ɜ Poplar, the White Fir (*Abies con-*
ponderosa, and *Picea Engelmannii*,
istinct from, the Blue Spruce (*Picea*
northern White Spruce. There are,
ɛre, a Pine, a Larch, and a Spruce.
. *Murrayana*) has withstood the win-
ɔretum, in good condition.

m this region possess a remarkable
l a doubt the value of experimental
may be applied to tree culture. As
ɔus essay, the plants raised from the
s prove perfectly hardy here in New
rom the seeds of the same species of
ɔister climate of the Pacific slope have
but flourish perfectly in England,
the Pacific slope find themselves at
experiment the analogy between the
United States and that of western

ern hemisphere, among the regions
add plants for cultivation here, is
whence, already, an Ash has been
Pinus Gerardiana promises to prove

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hardy, and similar results may be expected from some trees in portions of the Himalaya mountains. From the region of the Caucasus, we have still more species—a Maple, the *Zelkowa crenata*, the *Pterocarya fraxinifolia*, a fine specimen of which stands in the Botanic Garden at Cambridge; the *Carpinus Duanensis*, long cultivated here, though not extensively; and among the conifers, *Abies Cilicica*, *Abies Nordmanniana*, and *Picea orientalis*. Of the last two species, specimens may be seen on some estates near Boston, fifteen feet high, and of fine appearance. From the Balkan mountains of Roumelia, which is now considered its original home, though it was introduced here by way of Europe, we have the Horse Chestnut. This tree in proper situations, possesses a stateliness unequalled by any other, and its magnificent show of blossoms in the month of May, never fails to attract attention.

As it is said that "the exceptions prove the rule," we resort to the exceptional species from regions, whence it is generally useless to attempt to introduce trees with the prospect of satisfactory results. There are certain species of trees whose geographical range is of such wide extent that they seem to have acquired a special power to adapt themselves to different climates. Among such are the White Willow and the European Elm. Both of these trees are familiar objects to us, having been brought here by the early colonists as reminders of their old homes. The European elm proves, for city streets, superior to the American species, which has unfortunately been selected as the one American tree for constant service. The American elm, although of surpassing beauty in a moist alluvial soil and with abundant space, is usually planted in dry soil, where it does not flourish, and its drooping branches make it generally unsuitable for narrow streets, where it is frequently seen. The English elm, however, is more erect in habit, retains its foliage longer in the autumn, and withstands the smoky and dusty atmosphere of our cities far better than the American species. The European should, wherever possible, replace the American elm in our city streets. The European Larch is another tree of this class. Growing naturally in a dryer soil, it is much more suitable for our gravelly hills than the meagre foliaged American tree, which finds its home in low, wet grounds. The Norway Maple, too, in situations near the ocean, may, perhaps, be considered the most desirable among the foreign maples for general cultivation, and the conspicuous yellow blossoms, coming before the leaves appear, give an additional value to the tree.

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s ornus, *Tilia argentea*, and *Acer cam-*
irable, and also *Carpinus Betulus* and
ps, also *Tilia dasystylis* and *Quercus*
o are not fairly tested. Among the
e mention here, is *Thuja Warcana*,
or Vitæ, and considered a native of
a seedling variety of our own New

From its preference for drier soils, it
ultivation than the typical form, which
w grounds, and is of little service in
m the Pacific slope, we have as ex-
rshiana, well known in medicine; the
as serviceable in favorable situations, a
Poplar, *Abies amabilis*, *Abies nobilis*,
ese need a more extended test.

, where it is most usual to begin, with
s. To those unfamiliar with the history
it can but seem strange that, with the
beautiful forest trees directly under our
estates are filled with European trees,
unfit for cultivation in our climate, and
y to be placed beside their American
opean trees most common in cultivation,
ecimens of which, at fifty years of age,
European maple, the Norway, is, how-
tuations, as already stated. Neither of
r Sugar Maple, and even the White and
own against them in favorable soils.
sh, more frequently seen in cultivation
n species, seldom matures, except in a
he European Linden possesses but one
that of having more fragrant blossoms,
otherwise its superior. The European
equal the American White Ash, either as
ul tree, and neither the European Beech
cultivation here, with the corresponding
Chestnut is superior to its Old World
Walnut, or even the Butternut, is far
lnut of Europe. The English Oak fails
s, when it should be hale and hearty at

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a thousand. Probably no European tree has been more extensively introduced into cultivation than the Norway Spruce, for ornament as specimen trees, for wind-breaks, and for hedges, and yet New England possesses, in the White Spruce of the northern forests, a tree every way its superior; or, were it possible to replace the Norway by the Blue Rocky Mountain Spruce, which is suited for all purposes, the improvement would be great indeed. The same comparisons may be made in favor of the American Pines. The White Pine far surpasses either the Austrian or the Scotch Pine as an ornamental and useful tree. The Red Pine, which is even now found growing naturally in Massachusetts, while it resembles the Austrian Pine somewhat in appearance in the young state, is just beginning its maturer life when the Austrian Pine is failing, as it almost always does in the course of thirty years. The common Pitch Pine, often overlooked, is for us a much more valuable tree for planting in a sandy soil, than either of the European species. Why is it, then, that we have been as it were, loaded down with a mass of unsuitable material, often rendering the labors of earnest arboriculturists of the last generation a waste? Why is it that, with a vast storehouse of trees, in every way adapted to our wants, and directly at hand, we have persistently planted valueless species to the exclusion of the nearer and better ones? It is partly our misfortune and partly our fault. We have been too easily satisfied to follow foreign taste, use foreign trees, and study foreign books. Scientific arboriculture here has received little or no attention. These are our faults. Our misfortune is that we have not had in New England an Andrew J. Downing to influence the taste for arboriculture, and to guide it in its proper channels. Had we been so fortunate, his influence could not have failed to produce a marked effect here, as Downing's has done in the region where he lived and wrote. Our nurserymen should realize the great importance of the position that they hold in the community, and the vast influence, if used in the right direction, they have upon the future taste for trees and the results of tree planting. In selecting ornamental trees the purchaser is entirely dependent upon the nurseryman, for a knowledge of the proper species. It is, therefore, very important that those who deal in trees should possess a fair knowledge of scientific arboriculture, in order to form a correct judgment in recommending trees for various situations, and to be of real service to the purchaser, who, in most cases,

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ne subject. Good courses of read-
ral and physiological botany cannot
l for those who intend making the
eir business; a careful study of the
rks as Marsh's "Man and Nature"
y," will be a valuable addition to the
the field.

pose that by what is popularly known
plant may be made to flourish in a
rally grow, if it only can be inured
nge. This theory has been proved
It is not, therefore, by habituating to
ions differing totally in climate from
ct to add to our collections; but by
tic conditions of all countries, and
s seem to possess a climate resembling
ltivate here with the prospect of suc-
has been no authoritative source of
in the selection of trees for our orna-
lturists during the past hundred years,
ented almost at random with a large
what is now known of the subject we
sm of the pioneers of horticulture in
But something more is needed in a
rge estates seldom remain intact for
erations, and where the demands for
s to surrender today the land which,
nsidered quite beyond their reach. It
experiments, sufficiently continued to
e, should be carried on by institutions
here the work inaugurated by one gen-
warded by the next; for in the study of
e results may not be reached for a cen-
fully recorded observations must always
t. We cannot, therefore, too highly
ork contemplated by Harvard College
rboretum. In 1874, a tract of land on
Roxbury, near Boston, was set apart by
es of an arboretum. A collection of
ommenced, both of native species and

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of those from other portions of the temperate zone. By
of exchanges with institutions of similar character in oth
of the world the collection was rapidly augmented, so that
present time it contains a larger number of species and vari
hardy trees and shrubs than any other collection in this co
Experiments have been tried and are still continued with p
and seeds from regions where the climate is at all similar to
own, and even where in some cases local conditions of clim
suggest the possibility of obtaining for cultivation here (as in
case of the Douglas Fir) individuals of a species which general
inhabits a very different climate, and one from which we shou
not expect to introduce plants with success. Although much ha
already been accomplished, a work so great as that contemplated
must be considered as largely in the future, and as even a com-
mencement of the final arrangements has been delayed on account
of certain plans now under consideration by the College and the city
of Boston, the collection of living plants is still in the form of a
nursery, and no scientific arrangement has as yet been begun. It
is intended as soon as practicable to plant along the roadways
the species of trees and shrubs, both native and foreign, in the
order of their botanical sequence, and to have them so grouped
that the plants of one family will be together and readily studied.
All the varieties, too, of a species will find their appropriate
places in the systematic order, that the visitor may acquaint
himself with their position, and readily compare them with the
species from which they are supposed to have been derived. By
this arrangement it will at once be seen what species and varieties
are most worthy of cultivation, and in what countries or portions
of countries the plants best adapted to our wants are found.
Those which prove failures will also be pointed out, that we may
know what to avoid in making our selections. In other portions
of the grounds it is intended to illustrate the methods of making
artificial forests, and the different ways of planting trees for
economic and ornamental purposes. A museum and herbarium
for the benefit of those who are studying ligneous plants scientifi-
cally, or who may desire to name specimens or to select plants
for horticultural purposes, has been commenced. This collection
has already become quite extensive, and besides a very good
herbarium of the woody plants of the temperate zone, includes
specimens of the wood of nearly all the North American forest

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large number of foreign species. It is
the collection everything relating to trees
istrate the subject botanically or horticul-
jects constantly in view, the Arboretum,
existing, and those which will inevitably
lesire to study the trees, whether scientifi-
ural or economic aspects, such an oppor-
has been given our people. The Arbore-
he experiments conducted there will not
o this portion of New England, but will
ıe whole country as well.
ed to horticulture for the production of
ieties of trees. The magnificent variety
aleas, and the hybrid Magnolias and other
l success of enlightened horticulturists,
of such natural sports as the Purple
ıt-leaved Birches and Maples, as well as
g trees, horticulturists have contributed
o our ornamental collections. But there
is as well as other branches of garden-
d practice too much in vogue, of saving
onstrosities which should never receive a
here are long lists of golden-leaved, cut-
l varieties, which are but diseased and
tions and arrested growths of healthier
orthy of preservation. Nor can much
said of the many so-called "inverted"
This fashion is as unhealthy as the
ıld be as short lived.
which is devoted to the propagation of
the study of climate, and the intro-
gardens and plantations would better
modern science has made in botanical
ge of plant life. Nor is it enough to
ees for our plantations; it is as neces-
n as to plant them. Too little atten-
ıning and pruning of our trees. It is
practised here, although in Europe
n recognized, and pruning forms an
ılturist's duty. The want of proper

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pruning and care is especially noticeable in our city and roadside trees. They are too often left to themselves, or else mutilated in rude attempts at unscientific pruning. To supply information on this important subject, the Massachusetts Society for Promoting Agriculture has recently caused to be translated from the French, a treatise from the pen of the Count des Cars; a work which has passed through many editions in France, and which is of great practical value. It should be in the hands of every one who has charge of trees, or is interested to see them properly managed. Could Mons. des Cars's directions be followed, the trees on Boston Common, and in the parks and streets of our cities, would present a very different appearance, and their chances for long life and greater beauty would be immensely increased.

The science of arboriculture is in its infancy here, but under the influence that might be exercised by such institutions as the Arnold Arboretum and this Society, it should not long remain so. The subject is one of vast importance, and, whether considered scientifically, horticulturally, or from its economic aspects, should receive earnest consideration; and there is, perhaps, no better way of calling the attention of the community to it than by first making trees attractive in ornamental plantations. One of the most experienced and scientific horticulturists, whose name is known wherever the study of plants is pursued, has said: "It is the duty of our enlightened community to plant trees, and to so care for them that posterity shall not suffer; a duty, unfortunately, too little regarded in our day."

Appendix.

List of Trees which may be used for Ornamental Plantations in the Northern United States, arranged under the regions indicated above.

Such as have not been thoroughly tested, but which may be expected to succeed, are marked by an asterisk.

I. Appalachian, or Atlantic American.

Magnolia acuminata (Cucumber tree).
" cordata.
" Fraseri.
" glauca (Sweet Bay).
" macrophylla.
" Umbrella (Umbrella tree).

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era (Tulip tree).
sswood, Linden).
outhern Linden).
t Buckeye).
io Buckeye).

White or Silver Maple).
n (Striped Maple).
r Swamp Maple).
ugar Maple).
r. nigrum (Black Maple).
ntain Maple).
Box Elder).
horn Sumach).

(Locust).
mmy Locust).
Yellow-wood).
ensis (Kentucky Coffee tree).
Red-bud).
thos (Honey Locust, Three-thorned

Canada Plum).
ca (Bird Cherry).
ack Cherry).
merican Mountain Ash).

erican Crab Apple).

Washington Thorn).
(Cockspur Thorn).
Scarlet-fruited Thorn).
(from the Valley of the Mississippi).
(Black Thorn).
nsis (June-berry).
vering Dogwood).
pelo).
(Sheep-berry).

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Viburnum prunifolium (Black Haw).
" alternifolium.
Oxydendrum arboreum (Sorrel tree).
Kalmia latifolia (Laurel).
Rhododendron maximum (Great Laurel).
Diospyros Virginiana (Persimmon).
Halesia tetraptera (Silver-bell tree).
Fraxinus Americana (White Ash).
" pubescens (Red Ash).
" quadrangulata (from Michigan, etc.).
" sambucifolia (Black Ash).
" viridis.
Chionanthus Virginica (Fringe tree).
Catalpa bignonioides.
" speciosa (Western Catalpa).
Sassafras officinale.
*Ulmus alata (Winged Elm).
" Americana (White Elm).
" fulva (Slippery Elm).
" racemosa (Rock Elm, from the Western States).
Celtis occidentalis (Nettle tree).
Morus rubra (Red Mulberry).
Maclura aurantiaca (Osage orange).
Platanus occidentalis (Buttonwood).
Juglans cinerea (Butter-nut).
" nigra (Black Walnut).
Carya alba (Shag-bark Hickory).
" sulcata (Western Hickory).
" amara (Bitter-nut Hickory).
" porcina (Pig-nut Hickory).
" tomentosa (White-heart Hickory).
Quercus alba (White Oak).
" bicolor (Swamp White Oak).
" coccinea (Scarlet Oak).
* " heterophylla (from New Jersey, Delaware, etc.).
" imbricaria (Shingle Oak).
" macrocarpa (Over-cup Oak, Burr Oak).
" Muhlenbergii (Chestnut Oak).
" palustris (Pin Oak).
" Phellos (Willow Oak).

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(Rock Chestnut Oak).
(Red Oak).
a (Post Oak).
ia (Yellow-barked Oak).
ris, *var.* Americana (Chestnut).
a (Chinquapin).
ea (Beech).
a (Hop Hornbeam).
niana (Blue Beech, Iron Wood).
r. populifolia (White or Gray Birch).
lack or Sweet Birch).
ellow Birch).
ed or River Birch).
ea (Paper or Canoe Birch).
Speckled Alder).
(Blunt leaved Alder).
ack Willow).
Heart-leaved Willow).
ining Willow).
ifera.
var. candicans (Balm of Gilead).
lentata (Large-toothed Aspen).
ides (American Aspen).
era (Necklace Poplar).
niana (Red Cedar).
phæroidea (White Cedar).
is (Arbor Vitæ).
num (Bald Cypress).
(Balsam Fir).
s (Hemlock).
a (from North Carolina, etc.).
e Spruce).
k Spruce).
(American Larch).
(Gray Pine).
ed Pine).
able Mountain Pine).
h Pine).
hite Pine).
ey Scrub Pine).

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II. Northeastern Asia.

A. China and Manchooria.

Magnolia conspicua (Yulan).
" stellata.
" (garden hybrids and varieties).
Liriodendron (species from Northern China).
Phellodendron Amurense.
Tamarix Chinensis (Chinese Tamarisk).
*Tilia Mandshurica (Manchoorian Linden).
*Æsculus Chinensis (Chinese Horse Chestnut).
*Acer Mono.
" Tartaricum.
" " *var.* Ginnala (Fragrant Maple).
Cladrastis Amurensis.
Gleditschia ferox (Thorny Honey Locust).
*Gynmocladus Chinensis (Chinese Coffee tree).
Cratægus orientalis.
Prunus Maacii.
* " Mume.
Cedrela Chinensis.
*Fraxinus Mandshurica (Manchoorian Ash).
*Pterocarya stenoptera.
*Quercus Mongolica.
*Betula Ermani.
* " ulmifolia (Elm-leaved Birch).
Juglans Mandshurica (Manchoorian Walnut).
Taxodium heterophyllum (Glyptostrobus).
Pinus Bungeana (White-barked Pine).
" Mandshurica.
Juniperus Chinensis.
Pseudolarix Kæmpferi.

B. Japan.

Tilia cordata.
*Acer cratægifolium (Hawthorn-leaved Maple).
* " micranthum.
" polymorphum (including some varieties).
" rufinerve.
" Japonicum.

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R. Osbeckii of authors).
nicum.
a.
. Japonica of gardens).

a.

ies and garden varieties).
s.

ea.

apanese Walnut).

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*Quercus glabra.
* " dentata.
* " serrata.
* " cuspidata.
*Fagus Sieboldii.
Castanea Japonica.
*Betula Bhojpattra.
* " coryifolia.
* " Maximowicziana.
*Carpinus Japonica.
* " laxiflora.
* " erosa.
* " cordata.
Alnus Japonica.
*Thuja dolabrata.
* " Japonica.
* " orientalis.
" " *var.* pendula.
Chamæcyparis (Retinospora) pisifera.
" " " *var.* squarrosa.
" " " " leptoclada.
" " " " plumosa.
" " " " filifera.
" " obtusa.
" " " " lycopodioides.
" " " " pygmæa.
" " " " nana.
" " " " Keteleerii.
" " " " breviramea.
" " " " pendula.
" " " " filicoides.
Juniperus rigida.
* " Nipponica.
* " littoralis.
* " Davurica.
Cephalotaxus drupacea.
Taxus cuspidata.
Sciadopitys verticillata (Umbrella Pine).
Pinus densiflora (often cultivated as P. Massoniana).
* " Thunbergii.

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apanese Hemlock).
ıgko tree, Salisburia).

SPECIAL REGIONS.

Mountain region of Colorado.

cana.
.
s.
lia (Narrow-leaved Poplar).
White Fir).

glasii (Douglas Fir).
i.
lue Spruce).
var. scopulorum.

B. Siberia.

cens.
rgenteum.

C. Toorkistan.

phila.

D. Thibet.

a.

E. Caucasus.

.
nifolia.
nsis.

niana.

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IV. Exceptional Species.

A. Pacific Slope.

Species of the Pacific forest of more or less wide geographical range, which should be tested in New England, from their more northern limits in the Rocky Mountains and Coast Ranges.

Rhamnus Purshiana.
Acer circinnatum.
* " macrophyllum.
*Cratægus Douglasii.
*Pirus rivularis.
Fraxinus Oregana.
*Quercus Garryana.
*Populus tricocarpa.
*Alnus rubra.
* " rhombifolia.
*Salix lasiandra.
*Torreya taxifolia.
*Chamæcyparis Nutkaensis.
*Thuiopsis borealis (of gardens. Hardy in New York).
*Thuja gigantea.
*Abies nobilis.
* " grandis.
* " amabilis.
*Tsuga Mertensiana.
* " Pattoniana.
*Picea Sitchensis.
*Larix Lyallii.
* " occidentalis.
*Pinus albicaulis.
* " contorta, *var.* Murrayana (Twisted Pine).
" flexilis.
* " Lambertiana.
* " monticola.

B. European.

Æsculus Hippocastanum (Horse Chestnut).
Acer campestre.
" platanoides (near the ocean).

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Silver-leaved Linden).

is.
Turkey Oak).
ica.
s.
e Willow).

hite Poplar).

European Larch).

Discussion.

o had been appointed to lead the discus-
hat the reading of so valuable a paper
for this holiday season, when there were
n to it. The subject covers a great deal
spoke of the growth of certain trees in
the *Abies Douglasii*, which is found from
Colorado. Forty years ago, he imported
rom England, but they all perished in a
here was something in taking seed from
regions. He had never seen a tree of
igh in this country, except at Mr. Hun-

he knew of trees of the Douglas Fir
twelve feet high, and that this species
tion of the rule that trees raised from
ic slope, are tender, while those of the
seed are hardy here. All the Califor-
forty years ago were from seed col-

Hunnewell imported trees of *Cedrus*
ey proved tender, grew large enough
es raised from this seed proved hardy.
s should stand our ordinary winters;
unusual severity, and we have had no

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very severe winter here since 1861. From 1846 to 1857 we had moderate winters, and Sequoias and Cedars of Lebanon in the grounds of the speaker, grew up to the height of six feet, but in 1857 they all went down, and many others were injured in 1861. Trees cannot be recommended as hardy from a trial of three or four years under the most favorable circumstances. He knew no living Cedar of Lebanon or Deodar Cedar of any size here. A few years ago he left four camellias out-doors in the winter, with a thick covering of leaves and evergreen boughs among the branches, to test their hardiness. They remained green and healthy with the temperature as low as eight degrees; after that it fell to zero with snow, but when spring came they were all killed down to the ground. The average winter temperature of the shores of Buzzard's Bay is twenty-eight degrees, which is two degrees higher than that of Boston. The *Prinos glabra*, which is there a beautiful evergreen shrub, is here so much injured as to destroy the glossiness of its leaves. The American Holly, which grows around the shores of Buzzard's Bay, finds its northern limit in the vicinity of Bridgewater.

Mr. Hovey said that he admired the English Elm, but objected to it as a street tree. The limbs grow out horizontally, and those on the Beacon street mall stretch almost across the street. He had read of elm trees in England which were dangerous, from this cause. The American Elm, on the contrary, grows more erect, does not give too much shade, and the limbs will not interfere with travel. The English elm holds its leaves longer than the American, which is an advantage. The Sugar Maple is a fine tree, of slow growth; it takes about thirty years to get it thirty feet high, and our people are unwilling to wait for it. The same may be said of the Scarlet Maple. The White, or Silver Maple, is of more rapid growth, and a very fine tree. Its greatest fault is that the branches are liable to be broken by gales, but the broken limbs may be cut off without material injury. The Oriental Spruce and Nordmann's Spruce, are two of the finest. He had raised seedlings of the *Salisburia*, or Gingko tree, which averaged a foot of growth in a year. He thought the Gingko tree on Boston Common was older than stated by Professor Robinson——Probably, eighty or ninety years old. The Liquidamber, whose foliage is so beautiful in autumn, is tender here; the speaker has trees fifteen or sixteen feet high, but one half the growth gets killed back every year, and it is very slow work getting them up.

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cultivating trees, American trees were
s here or in Europe, and he employed
of the Canoe Birch, Hop Hornbeam,
ire; there was, however, but little
ie of them are now standing on his
y years old. Nurserymen cannot be
which there is no demand, and the
what is wanted to make the public
ell as the new introductions. He was
obinson's views in regard to introducing
mates. It is useless to attempt accli-
n by the rhododendron. Three years
is, after a hard winter, when nearly all
erfectly brown, but noticed among a
vas green and uninjured. He gathered
hem home and planted them, and the
; until the severe frosts, early last
the last season's growth, which was
illed. Seedlings from *Rhododendron*
d. We may succeed, by hybridizing
cies, in raising improved hardy varie-
be very slow. It is, however, the only
rs; but, in getting these we are liable
ss.

1844, he received the plates of a folio
ing out arboretums, and when he went
erby Arboretum which was laid out by
her disappointed in it. An arboretum
all hardy trees, planted in groups
tem. The Arnold Arboretum is yet in
ighly pleased to see the new trees from
explored regions, but we must not be
ation for general planting here, or too
visiting the arboretum, we shall learn
e.

hat he felt greatly indebted to Profes-
e suggestions in his paper. He asked,
ardiness of trees of *Picea pungens*, and
rom Colorado seed, as compared with
the Pacific slope, whether it was not

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the process of acclimation continued over a long period which made the difference. He agreed with Mr. Hovey, that nurserymen could not be expected to raise trees for which there is no demand, but they can do a great deal to educate the public taste. He had had a large quantity of the *Sophora Japonica*, which he endeavored in vain to induce the public to purchase, and they finally went on the brush heap; but, if there were fine specimens of this tree (both the upright and weeping forms) at the Arnold Arboretum, and of other beautiful but little known trees, a better day would come.

Hon. Marshall P. Wilder felt obliged to Professor Robinson for his interesting and appropriate paper, which would tend to bring up the public taste at the right time, just as we have organized a system of public parks, taking in the Arnold Arboretum. The City of Boston stands higher today in education for its action in regard to the Arnold Arboretum. There we shall get the knowledge of trees which former ages could not get. The speaker thought Messrs. Hovey and Strong's apologies for the nurserymen, were quite sufficient. He was pleased with Professor Robinson's distinction between healthy and diseased leaved trees. Though there may be exceptions, the taste for such trees is unnatural, and the speaker did not believe it would continue long. He could not agree with Mr. Strong in regard to acclimation, but thought it in a general sense, a fallacy. Soil and situation have a great deal to do with hardiness. He has a Cedar of Lebanon on a ledge where there is but six inches of soil, and neither too much nor too little water, which has survived when every other one in New England (so far as he knew) has been destroyed. He wished to give all honor to such men as Messrs. Hunnewell, Hayes, and Sargent, who are bringing all the new trees and shrubs from Japan and elsewhere, and testing them.

Professor Robinson said that we must draw the line between what can be accomplished by man in a single generation, and what can be done by nature in the course of ages. The changes effected by nature are gradual and imperceptible. The introduction of hardy and tender forms of the same tree from Colorado and California, is very different from acclimation. Both forms were probably disseminated from one stock at the close of the last geological epoch, when they were forced north, some to Colorado and some to California, — perhaps a million of years ago, — and during that time,

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ıave gradually acquired the differences

a list published in the "Gardener's
)4), of one hundred and seventy-five
ental trees, growing in his grounds at
·ieties of Magnolias, seven Limes, six-
Chestnuts, eleven Hawthorns, sixteen
ee Larches, *Kœlreuteria paniculata*,
-wood), *Caragana arborescens*, *Nyssa*
Gymnocladus Canadensis, etc.

ussion be continued on the next Satur-

ESS MEETING.

SATURDAY, December 31, 1881.

' the Society was holden at 11 o'clock,
ı B. Hayes, in the chair.
ht before the meeting it was dissolved.

FOR DISCUSSION.

uation of that of last week, viz.:

TAL ARBORICULTURE.

called on, and said that our native trees
oked in planting for ornament. The
st evergreens; it is easily transplanted,
ak, and is valuable both for timber and
increasing demand; it makes a good
the lawn. Though it sometimes suffers
it is found growing naturally in very
lo is inclined to root deeply, and is dif-
when it has been frequently transplanted
developed specimen is very beautiful.
y richly colored. In swampy land it
three feet in diameter. There is a very
mbrella-shaped head, in Everett, near
Saugus Branch Railroad.

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President Hayes mentioned two very fine specimens, a hundred feet high, in the grounds of Robert B. Parsons, at Flushing, N. Y.

Mr. Manning said there is a very fine one, about eighty feet high, on the farm of Langdon Ordway, in Bow, N. H. Concord, N. H., is distinguished for beautiful elm trees. He thought the American Elm the handsomest of all the large shade trees.

President Hayes mentioned a remarkably beautiful elm near the old North Church in Concord, N. H. When his namesake, the President of the United States, was at Concord, he visited this tree, and took off his hat to it. He was so impressed with its beauty that he asked to revisit it, which he did, and suggested that the land on which it stands should be purchased and a fence placed around it, and presented to the city, to insure its preservation.

Mr. Manning said there are several fine elms at Newburyport. One near Byfield Station measures, at two feet from the ground and following the ridges of the trunk, forty-two feet in circumference, and at five or six feet from the ground eighteen feet in circumference.

John B. Moore wished to speak in favor of the elm, as the finest street tree in New England. It has been said that it will not grow except in moist soils, but this is not so. Its withy limbs withstand gales better than those of any other tree. It is a rapid grower; one which he helped to plant about fifty years ago, now measures, at eighteen inches from the ground, eleven feet in circumference. There are many trees in Concord which he planted, now from three to eight feet round. Mr. Moore spoke of a Three-thorned Acacia, six feet in circumference; this tree is valuable for its timber, and is not troubled by the borer, like the common locust. There have frequently been great mistakes made when planting elm trees by roadsides, in placing them too close. One handsome, fully developed tree is worth many small ones. There are many varieties of the American elm; one has the limbs feathered with small branches nearly to the ground, and it is one of the most beautiful, if you can keep the ignorant persons employed to prune street trees from cutting them off.

Hon. Marshall P. Wilder asked Mr. Moore if the elm will grow in a soil of all sand.

Mr. Moore replied that it has a faculty of going through three or four rods of gravel to get at a good soil. This was done by two which he set out twenty-five or thirty years ago, and the suc-

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ve each a cartload of soil, seemed for

ı anecdote of Judge Chadbourne in his
Maine, on the border of the State of
after potatoes were introduced, raised
e him such celebrity that he was made
d several fine elm trees near his resi-
admired, and Governor Hancock, of
n praised, asked the judge to supply
plant in Boston. Judge Chadbourne
y, to select the trees, which were for-
ed there. Soon afterwards the judge
own grounds, which he had carefully
sion, and, on inquiry, it proved that
ving the governor the best trees, had
ad kept for himself.

he felt a special interest in one branch
sion. He thought the Horse Chestnut
ul, both for its foliage and its flowers,
ly at a time when there are but few
ıt tree, celebrated by Longfellow, was
ıonstrances of those living in the neigh-
ered with the prospect from the west
persons. One tree on the same street
emonstrance was made by ladies. Such
in New England. A neighbor of the
h was cut down in its prime because he
l on which to plant vegetables. Other
ned of fine trees being cut down for a
eem almost felonious, and the speaker
an influence should go forth from this
nces against good taste.

ı spoke of a very fine English Elm at
hundred and seventy-five years old,
eads so wide, and casts so deep a shade,
of their time in summer under it.

red to the subject of acclimation, and
inks tropical trees can be made hardy in
be a question as to half-hardy trees.
anation of the hardiness of *Picea pun-*

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gens, from California seed, did not strike him as plausible. Trees raised from California seed are almost hardy here, and quite hardy in France and England; and it is reasonable to suppose that seeds may have been conveyed from California into greater altitudes and colder regions. Corn taken from here to Canada will ripen earlier, and when brought back becomes a six weeks corn. The case is the same with the tomato. Professor Robinson's instance of the *Magnolia glauca*, which, when grown here is perfectly hardy, while plants of the same species brought from Florida would not survive a single winter, is a parallel case. The speaker thought plants from milder climates might be gradually accustomed to that of New England, and he brought up the subject because he deemed it of practical importance. We are introducing many new trees, and shall we cast away all that do not appear to stand our climate? The speaker thought they might be acclimated as men are. The fact that men may become acclimated, encourages us to hope that trees may. In long extended experiments, we may not succeed with a majority, but with others we may be successful. We ought to have institutions like the Arnold Arboretum where such experiments can be carried on.

Hon. Marshall P. Wilder said that Mr. Strong's views were practical, but he would like to have him mention an instance where a tree had been acclimated.

Mr. Strong replied that *Picea Nordmanniana* is of questionable hardiness when young, but afterwards becomes quite hardy. *Cupressus Lawsoniana* is hopeful; it sometimes produces seed here, and the seedlings may be hardy. He had got the type up to eight feet in height. Many Japan plants are hopeful. With many plants there is no prospect of hardiness, but with others there may be.

Thomas Whitaker said that the question of acclimation was an important one, and understanding it will unlock a door which we have thought closed. Professor Robinson said that a certain tree which would flourish in England would not flourish here, and the speaker thought it might be so. More trees are lost here by summer killing than by winter killing. A tree from Siberia will no doubt stand our winters, but will it stand our summers? People talk about the rigors of our winters as compared with those of England, but he could stand a New England winter better than one in old England. He spoke of a trip from Bingley to Bradford, England, with

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rees above zero, and said that when he
l men were all white with hoar frost.
ıke a second trip, and when he got home
ng off his clothes. He had ridden ten
the thermometer twenty degrees below
during his trip to Bradford. He had
ıd gooseberry bushes putting out leaves
ot mature their fruit earlier than they
eaves green until November, making a
: nine months. In New England the
ıt three months, and in that time the sap
deposit the matter to form the growth
ıis process goes on slowly, but here at
ıe same with all vegetables. Can we
ɜ of trees? A tree from England has
l in one of our short seasons, and con-
in winter. All plants that can mature
me there. It is important in selecting
omes from, and where it is to be sown.
d from sandy ground to sow on sandy
ucky soil. The question of adaptation
Ie thought trees might be brought from
d here, that might be called native.
ifferent circumstances might be botani-
ally there must be a difference, and in
or vegetables to as great perfection in
they must not only be botanically alike,
e same, and it is to do away with this
; acclimation becomes of so much impor-
we are losing vast sums of money every
attention to this subject of adaptation.
wheat hardly stops growing; it certainly
ry. In September, we should find that
een in the barn six weeks, but in old
be reaped. Under these circumstances
g seed from there here.

was not strange that trees raised from
ardy, for in 1880 the cold at the signal
69° below zero. At Denver, the "bliz-
)° or 40° below zero. He saw trees of

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the Douglas Spruce at the foot of Engelmann Canyon, which had made two feet of growth on the 28th of June. The next day, on Pike's Peak, at an elevation of about 12,000 feet, spruce and pine trees were just budding out. At this elevation he saw *Pinus aristata* three feet in diameter, and spruce trees of the Engelmann type from one to two feet thick and from forty to sixty feet high, but this was in a sheltered position. On the 10th of July he walked from Georgetown, the terminus of the railroad, at an elevation of 8,000 feet, up the Argentine Pass, a distance of nine miles, passing near the Twin Lakes, to the summit of the Pass, which is 13,006 feet above the level of the sea. On this route the spruces at the highest limit of trees (more than 12,000 feet,) were a foot and a half thick at the base and only six feet high, and while on the windward side the branches were like stag's horns, on the leeward side they were fifteen or twenty feet long and very luxuriant. The same species (probably Engelmann's) at an elevation of more than 10,000 feet, grew two or three feet in diameter, and from thirty to fifty feet in height. The Douglas Spruce is not found at as great an elevation as Engelmann's. The speaker saw trees of the latter from twenty to one hundred feet high, and of all shades, from light green to misty blue. One tree of *Picea pungens*, near the South Platte River, was of a glaucous color, and measured five feet in diameter, and one hundred and ten feet in height, and spread forty-five feet, with vigorous branches to the ground.

The Red Oak transplants easily, and makes a good street tree. The American Basswood or Linden tree makes a good shade. It is adapted to a great variety of soils, from light and dry to moist; and succeeds well down to the verge of tide-water.

President Hayes spoke of a remarkably fine elm opposite his summer residence in Lexington, planted soon after the settlement of the country, on the place where John Hancock, the grandfather of the governor, lived.

Leander Wetherell alluded to the remark which he made last season that the elm is not adapted to sandy, gravelly soils. He had seen it growing indigenously between Rochester and Buffalo, in clayey soils, and the same in Canada. His opinion still is that it is not adapted to gravelly soils. He agreed with Professor Robinson that the Sugar Maple is one of the best shade trees, but it is not adapted to gravelly soils. It is a clean tree. A native of Hardwick, in this State, who had made a fortune in California,

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me, gave a sum of money for planting
ts of the town. The speaker agreed
nerican elm is superior to the English;
oking at the length and beauty of the
graceful. It is true that the English
an the American, but it does not put
of trees has engaged attention from
l in the Old Testament the record of
must allow for diversity of tastes in
the great variety all can be pleased.
ees himself, because he could get no
irst thing to be considered is the selec-
l is care in planting. The speaker had
norse chestnut trees defoliated by cater-
succession, with the effect of changing
m spring to August. This may be an
arcer at that time than in spring, — as
d the bearing year of Baldwin apple
dd year, to the great advantage of the

ay to Mr. Strong — go on with your
' nothing venture nothing have." But
odara, the *Cryptomeria Japonica*, the
l the *Sequoia gigantea*, and, like Mr.
getting them up to some height, but
llwanger & Barry, of Rochester, New
ntity of Sequoia seed soon after the
' which they sent to Europe, and part
raised fine trees from it, but they have
mber, until only a very few are left.
climate different from its own by any
when it is raised from seed another

ne discussion of the subject would be
meeting on the next Saturday.

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REPORT

OF THE

COMMITTEE ON PLANTS AND FLOWERS,

FOR THE YEAR 1881.

By WILLIAM H. SPOONER, CHAIRMAN.

As we endeavor to fulfil the requirements of our official year in a brief retrospect of the work of the Society in this department, our special duty is to transcribe the successful achievements of the various cultivators who make the exhibitions valuable by their contributions.

NEW AND RARE PLANTS AND FLOWERS.

The past season has been unusually prolific in the appearance of new, rare, and valuable plants and flowers, and we have noticed various seedlings of native and foreign origin which deserve attention.

Roses.—Hon. Francis B. Hayes, President of the Society, exhibited, February 5th, Hon. George Bancroft, one of the Bennett Seedling Pedigree Roses,—so called. Color, bright rosy crimson, shaded purple, with Bourbon foliage.

March 28, John B. Moore presented the following new roses:

Gloire de Bourg-la-Reine.—Scarlet red.

William Warden.—Light pink, of good form.

Ferdinand Chaffolte.—Brilliant red, shaded violet.

Mme. Oswald de Kerchove.—Of medium size; white shaded pink, centre tinted coppery; a desirable color.

Catherine Soupert.—White shaded rose, a new color.

In Mr. Moore's collection on the 5th of March, we noticed the variety Charles Darwin, of rich brownish crimson color.

Ellwanger & Barry, of Rochester, N. Y., presented at the Annual Rose Show a seedling from Gen. Jacqueminot, very much in the

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but the flower was not in the best con-
nerits.
ride of Rochester, a seedling from *D.*
o its parent, but lighter in color, came
ochester, N. Y.
h, we had, from President Hayes, six
etics

Prince of Wales,
h, Sir Garnet Wolseley,
Stella.

Plants.—August 13, Jackson Dawson,
exhibited foliage and flowers of hardy
ws:

s. *Hypericum prolificum.*
olor. *Spiræa salicifolia*, var. *Billardieri.*
alba. " " " *Lenneana.*
" " " *rosea.*
a. " *eximia.*
Clematis Davidiana.
" *coccinea.*
" *flammula.*
" *tubulosa.*
Sambucus Ebulus.
Robinia hispida.
Hydrangea radiata.
" *arborescens.*

June 4th, Messrs. Woolson & Co., of
d one of the best collections of Hardy
our Hall, under the following names:

Anchusa Italica,
Anemone Pennsylvanica,
Anthericum Liliastrum,
Aquilegia cærulea,
Arenaria graminifolia,
Texana, *Arethusa bulbosa,*
ana, *Armeria plantaginea,*

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Brevoortia coccinea,
Calochortus flexuosus,
" *Gunnisonii*,
Ceanothus ovatus,
Clematis angustifolia,
Corydalis pallida,
Deutzia parviflora,
Dianthus Caryophyllus,
Dicentra eximia,
Gillenia trifoliata,
Hemerocallis Thunbergii,
Iris Sibirica, var. *sanguinea*,
Jamesia Americana,
Lathyrus palustris,
Lilium callosum,
" *Davuricum*,
" *pulchellum*,
" *Szovitzianum*,
" *tenuifolium*,
Pentstemon confertum, var. *cæruleom purpureum*,
Pentstemon ovatum,
Pentstemons — hybrids of *P. grandiflorum* and *P. Murrayanum*,
Phlox pilosa,
Polygonatum vulgare,
Psoralea esculenta,
Rhodotypus kerrioides,
Romulea, sp. from Asia Minor,
Rosa alba,
" *polyantha*,
" *rugosa*,
Silene maritima,
Spiraea Filipendula fl. pl.,
Thalictrum, sp. from Japan,
Valeriana officinalis,
Veronica amethystina,
" *prostrata*,
Xerophyllum asphodeloides,
Zygadenus Nuttallii,

and twenty-five varieties of German Iris.

Pansies.— From E. L. Beard came the finest collection we have ever seen of the chaste and delicately marked variety of Pansy Odier.

Delphiniums. — Seedlings exhibited by Dr. H. P. Walcott, were remarkably fine — the best presented for many years, with spikes very large and perfect in form, and the colors clearly defined.

E. Sheppard also exhibited new Delphiniums in improved varieties.

Iris Kæmpferi. — June 28, we had from Messrs. V. H. Hallock, Son, & Thorpe, of Queens, N. Y., a very fine assortment of seedling *Iris Kæmpferi*, and varieties.

July 9, Francis Parkman sent a collection of seedlings, and other varieties, even excelling his own productions of former years in the same class of plants.

Hollyhocks.—From John C. Hovey, July 23d and 30th, we had improved Seedling Japanese Hollyhocks. In two years Mr. Hovey has made a great improvement in his seedlings, and has succeeded in producing some remarkably chaste and pretty single, double,

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ostly with fringed or serrated edges;
ison feathered into pure white edges,
o a deep border of white, to pure white
hered into a fringed edge of white, and
The leaf is smoother than that of
the flowers are more sparingly pro-
will prove great acquisitions, being

e in the cultivation of hollyhocks, and
ie past season, have been much larger
holly of seedlings; the principal con-
B. Moore & Co., E. Sheppard, James
, and John L. Gardner.
Hayes has exhibited the new *Lilium*
variegated leaf with the old type of

yde has shown his seedling, Hyde's
ion, and your Committee had another
plant at his grounds. Mr. Hyde has
tion of the corms this season, and has
haracter. The plant proves even more
owing up a strong flower stem four feet
markably full spike of very large, well
ldly to one side. Many of the terminal
The growth is peculiarly vigorous,
tems to each bulb; many of them have
h seven stems, indicating a remarkably
l greatly add to its favor with the pub-
manimous in the opinion that it is the
troduced. A First Class Certificate of
ee years ago, and we now recommend
f $40, for the best Seedling Flowering
h it was entered three years ago), be
de, for the Gladiolus Hyde's White.
ted on the 30th of July, his seedling,
, flaked crimson, edges darkly blotched,
ugh the centre of each division; base of

George Craft has several times shown
single flower; color bright rich crimson

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with a deep black spot on each petal; a free bloomer and very showy, and, with the increasing taste for the single varieties of this plant, will prove a popular sort.

VARIEGATED DIANTHUS. — This was from Henry R. Comley. The leaves are half green and half white, retaining their variegation in the hottest sun. It is perfectly hardy.

SINGLE DAHLIAS.—From E. Sheppard came new single flowered dahlias; particularly noticeable were Paragon (dark maroon color), Cervantesii. and Lutea.

Samuel Smith, of Newport, R. I., exhibited very choice varieties of the same flower.

Hovey & Co. have also shown flowers of this class.

CHRYSANTHEMUMS.— The Seedlings from Dr. H. P. Walcott were noticeable as a successful experiment in horticultural science, and perhaps the first attainment in this direction in this country. Undoubtedly another year will produce results worthy of the highest commendation.

PELARGONIUMS.—May 7th, we had from William A. Bock a large collection of Seedling Pelargoniums, many of them very good flowers. We noticed No. 1, a double, and No. 16, single flowered, as promising.

June 28th, V. H. Hallock, Son, & Thorpe, of Queens, N. Y., exhibited a very choice collection of Double Pelargoniums, the greater part of them seedlings raised by Mr. Thorpe of this firm; the following descriptions are by Messrs. Hallock and Thorpe.

Mrs. E. G. Hill.—Very large trusses; color pale blush, overlaid with a delicate lavender shade.

Peter Henderson.—Color bright orange scarlet, fine shape.

Richard Brett.—Orange color—a new shade of color among double varieties; very double.

The Blonde.—Deeply shaded orange, base of petals white; distinct margin of white around each.

Remarkable.—An improved Ernest Lauth, with better shaped flowers and of a deeper shade.

Hazel Kirke.—With immense trusses of rich crimson flowers; short jointed growth.

Robert George.—Deep crimson scarlet; of great size; a free flowerer.

Messrs. Hallock also exhibited the following varieties:

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lossom, J. H. Klippart,
ness, Mrs. Charles Pease,
, William Hamilton.
nnell,

Fine strains of seedlings have been shown by Hon.
s and E. Sheppard.

RAS.— *A. paronychoides major aurea*, was shown
, August 9th. Color, rich golden yellow; habit
act.

hibited at the Annual Exhibition, the new *Alter-
a aurea*, raised by himself. Leaves broad and
yellow color, terminated with yellow, green, and
very early; habit, compact. A distinct and de-
among bedding plants.

AS. — March 5th, we had from Hon. Marshall P.
g which indicates a new break in the character of
nt, with a peculiar double flower; in color, light
oming in clusters of from eight to twelve flowers,
to that of the rhododendron, with crested petals.
requested the Committee to affix a name to the
ded to give it the name of its distinguished origi-
*nck*ney Wilder. It was in the fifth year from seed.

n. Francis B. Hayes presented a very attractive
; immense trusses of semi-double flowers; color,
ed with bright violet, and blotched with choco-
strong grower, and a profuse and very early
raised by Hon. Marshall P. Wilder, and named
is B. Hayes.

On Thursday, March 3d, your Committee, by
Hovey, visited the greenhouses of Hovey & Co.
ellias, which were in the best possible condition
eater portion of their plants are seedlings grown
ho has made the cultivation of this beautiful
work. As the result of his indefatigable labors,
nts, ten to fifteen feet high, covered with flowers
on, to show us. In addition to varieties men-
f former years, we noticed the following, the
furnished by Mr. Hovey:

-A very distinct and most beautiful variety,
as also in shape, having the cupped form so

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well known and exemplified in the old Centfeuille rose, but double to the very centre; of a peculiar bright satiny rose color, more or less veined with carmine, and when about two-thirds open, extremely difficult to distinguish from the most exquisitely formed rose, except by its foliage; petals, round, regular, and finely formed. The plant is also remarkable for its very dense, branching habit, and the profusion of its flowers, which continue to open an unusually long period in succession. Leaves of medium size, ovate, nearly flat, very dark green.

Eva Corinne Hovey.—A very robust and vigorous growing variety, with large, broad, thick, handsome leaves; of regular, branching habit, and remarkably stout annual shoots, terminated with unusually large, globular buds, which do not open like most Camellias, by the gradual unfolding of the outer petals, but open from the centre outward, and while opening have a peculiar and beautiful appearance, each petal being tipped with white, as in some dahlias; as they gradually expand, the flowers are so full as to form almost a perfect ball, but keep their elegant cup shape until they drop. Color, light rose, tipped with white; very large; petals large and broad, incurved at the tip. A most distinct and separate variety, quite dissimilar to any other.

Mrs. J. R. Carter.—A very pretty flower, of a rosy crimson color, with a stripe of white in the centre of each petal. Flowers, medium size, very double, cup-shaped, and full to the centre; petals, large, round. Plant vigorous, of an erect habit; foliage of medium size. A beautiful variety, somewhat in the way of Jeffersonii, but superior to it.

John Cummings.—Another variety of distinct color, being dark ruddy scarlet, an entirely new tint. Size, medium, quite double, but not so high in the centre; petals well shaped. The plant is moderately vigorous, erect, with rather small leaves, but flowers freely and abundantly.

Messrs. Hovey's general collection of plants was looking remarkably well, and Mr. Hovey may well congratulate himself that at the age of three score years and ten, he retains his early enthusiasm for horticulture and a remarkable energy and intelligence, which few can hope to emulate.

March 5th, Hovey & Co. presented an extensive display of seedling camellias in twenty-one varieties.

April 2d, Hon. Marshall P. Wilder placed upon the tables his

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dling camellias, Mrs. Julia Wilder, Jennie Wilder, and the
A. J. Downing.

RDIAS.—Nanz & Neuner, of Louisville, Kentucky, sent
f *Bouvardia elegans rosea multiflora* or *Williamsonii*, with
ge truss of flowers, color delicate rose, a lovely shade;
r bouvardia Alfred Neuner, a new pure white double
ach pip is doubled, like a tuberose; the plant is of a
orous habit, and, apparently, a profuse bloomer. The
re received through the mail, and not in the freshest
but by placing them in water, under suitable conditions,
le to judge of their character. A member of the Society
ed Neuner growing, and speaks very favorably of it as
e a grower, and as profuse a bloomer as bouvardia

N.—At the Annual Exhibition, we had from Miss
he beautiful new crested fern *Lastrea Richardsii mul-*
fern was sent out by Messrs. Veitch, and is described
plant having fronds three feet high, including the
are a foot long; the pinnæ are upwards of four
the broadest part, and terminate in a densely fringed
fifty long, narrow, acute divisions. Its color is

August 13th, A. H. Fewkes showed seedling hybrid
d Begonias; these were remarkably good flowers,
colors.
as also contributed a very fine collection of these

arie Bouchet, with semi-double flowers, exhibited
ncis B. Hayes, was also noticeable.
At the Annual Exhibition, F. L. Harris presented
his fine seedling Dracænas—Nos. 2, 5, 10, 30,

ary 15, President Francis B. Hayes exhibited a
ection of new Epacris.
same time, and also on the 7th of May, Presi-
ted an equally fine collection of Ericas. We
an increasing interest in these two classes of

ary 5, James Cartwright exhibited a beautiful
nitis grandiflora with twenty-one blooms, and

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we doubt if it was ever shown in finer condition anywhere. On the 5th of March we had, from the same, a plant of *Dendrobium Wardianum*.

STENOCARPUS CUNNINGHAMII has been exhibited by Hon. Francis B. Hayes several times during the season; this is a plant not often found in collections, although not new. Williams describes it as "a slow growing but beautiful plant. The stem is erect, the leaves are from twelve to eighteen inches in length, four or five inches broad in the widest part; dark green on the upper surface. Flowers bright scarlet, and produced from the stem."

ANTHURIUM ANDREANUM, from New Grenada, was exhibited by F. L. Ames. It is described as having leaves of deep green. The erect flower stalk is longer than the leaf stalk and terminates in a decurved spadix, ivory white at the base and sulphur-yellow at the tip, about three inches long and as thick as a swan's quill.

HYMENOCALLIS MACROSTEPHANA, of recent introduction, with a large cluster of pure white flowers, was also shown by Mr. Ames.

IPOMÆA HORSFALLIÆ is a stove climber, in bloom from November to Christmas; very free growing, from thirty-five to forty feet in length, with an evergreen leaf similar in shape to that of the *Ampelopsis quinquefolia*. Flowers, purple-crimson, in large clusters of a hundred or more in a cluster. This is not a new plant, but desirable in a collection. It was exhibited by Mr. Ames, with the two preceding, at the Chrysanthemum Show, November 9.

AZALEA AND ROSE SHOW.

MARCH 17.

INDIAN AZALEAS were not as largely shown as in some previous years. Francis B. Hayes, Marshall P. Wilder, Hovey & Co., H. H. Hunnewell, and Norton Brothers were the contributors, with about the usual varieties.

ROSES were not very numerous. Francis B. Hayes, John B. Moore, Norton Brothers, and W. J. Vass made very good displays.

GREENHOUSE PLANTS were contributed by Hovey & Co. and Francis B. Hayes.

The Special Prize of a Silver Cup, value $20, for twenty stove

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ct species, for nurserymen and florists
& Co. for
Dracæna Youngii,
Eurya latifolia,
Latania Borbonica,
Far- *Martinezia erosa*,
Pandanus Javanicus var.
" *utilis*,
" *Veitchii*,
Pelargonium Rollisson's Unique,
Rhododendron multiflorum,
Tropæolum tricolorum.

by F. L. Ames and James Cartwright.
own only by John L. Gardner, but not
he presented last season.

IBITION, May 7th, was not a success, no
ompete for any of the prizes for these

ODENDRON SHOW.

JUNE 4 AND 11.

dness of the season, the award of prizes
postponed for one week, to June 11th, at
Mr. Hunnewell and other large contrib-

nted seventy-two named varieties which
greeably to his customary practice, they
petition.
es exhibited the finest group he has ever
s appended.
Blandyanum,
Brayanum,
Broughtoni,
Bylsianum,
schild, Caractacus,
Charles Dickens,

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Concessum,
Correggio,
Countess Cadogan,
Countess of Normanton,
Cynthia,
Decorator,
Delicatissimum,
Duchess of Edinburgh,
Duchess of Sutherland,
Earl of Shannon,
Everestianum,
Fastuosum flore pleno,
Fleur de Marie,
Francis B. Hayes,
Frederick Waterer,
General Canrobert,
George Cunningham,
Giganteum,
H. H. Hunnewell,
Iago,
James Bateman,
James Mason,
Jean Verschaffelt,
John Waterer,
Lady Annette de Trafford,
Lady Armstrong,
Lady Dorothy Nevill or Standard of Flanders,
Lady Eleanor Cathcart,
Lady Grenville,
Lord Selborne,
Madame Marie Van Houtte,
Marginatum purpureum.
Mirandum,
Miss Meta T. Wilson,
Mrs. Francis B. Hayes,
Mrs. John Waterer,
Mrs. Milner,
Mrs. Russell Sturgis,
Mrs. Shuttleworth,
Mrs. Thomas Agnew,
Nero,
Nivaticum,
Onslowianum,
Ornatum,
Papilionaceum,
Paxtoni,
Pelopidas,
President Van den Hecke,
Prince Camille de Rohan,
Princess Mary of Cambridge,
Purity,
Purpureum elegans,
Roseum elegans,
Roseum pictum,
Samuel Morley,
Scipio,
Sherwoodianum,
Sir Robert Peel,
Stella,
The Queen,
Tippoo Sahib,
Vandyke,
Verschaffeltii,
William Austin,

Mr. Hayes was awarded the first prize for thirty-six varieties, for eighteen, and for twelve. He also took both prizes for three trusses of blooms of one variety; the first with Lady Eleanor Cathcart, and the second with Mirandum.

Hardy Azaleas.— The prizes for Hardy Azaleas were awarded

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June as scheduled. Hon. Francis B. Hayes took
for eighteen varieties with flowers of

le,	Joseph Baumann,
,	Macrantha eximia,
	Marie Verschaffelt,
Holdaway,	Mme. Marie Van Houtte.
t,	Nancy Waterer,
ılacea flammea,	Radiata,
le Flandre,	Reine Louise,
	Unique,
n Meran,	Saphira.

took the first prize for six varieties with

lacea elegans,	Fama,
e,	Graf von Meran,
	Pallas.

r of trusses of one variety Benjamin G. Smith
utiful cluster of Graf von Meran pleno.
yes was the only contributor of *Azalea mollis*.
rıs were not shown in as large quantities as we
ould be. Joseph H. Woodford exhibited a good
4th of June.

ND STRAWBERRY EXHIBITION.

June 28.

this season was by far the largest and finest ever
ty, the quality of the flowers being exceptionally
the prolonged coldness of the season the date
ı Thursday, the 23d of June, as fixed in the
day, the 28th.

Special Prizes.

Jr., for the third time competed for and was
enge Cup, for seventy-two as superb roses as
ur Hall and which justly deserved the award.
ıis year were John B. Moore and Francis B.
ed very fine flowers.

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Mr. Gray presented the following varieties, three of each,

Caroline de Sansal,	Marguerite Brassac,
Comtesse d' Oxford,	Marie Finger,
Duchesse d' Aoste,	Marquise de Castellane,
Duchesse de Caylus,	Miss Hassard,
Édouard Morren,	Mlle. Bonnaire,
Étienne Levet,	Mme. Gabriel Luizet,
Exposition de Brie,	Mme. la Baronne de Rothschild,
Félix Généro,	Mme. Prosper Laugier,
François Michelon,	Mme. Victor Verdier,
John Hopper,	Perfection des Blanches,
Mabel Morrison,	Pierre Notting,
Magna Charta,	Richard Wallace.

For the third time the special prizes of silver cups were offered, and the competition for them was unusually brisk. A Silver Cup, value $25, for the best three roses of different varieties was awarded to William H. Spooner, for Duke of Edinburgh, Mme. la Baronne de Rothschild, and Victor Verdier.

A Silver Cup, value $25, for the best six roses of different varieties to J. S. Richards. The list of varieties was not furnished.

A Silver Cup, value $25, for the best twelve roses of different varieties to William Gray, Jr., for

André Dunand,	Magna Charta,
Charles Lefebvre,	Marie Beauman,
Édouard Morren,	Mlle. Eugénie Verdier,
Thomas Mills,	Mrs. Baker,
Jean Soupert,	Thomas Mills,
Mabel Morrison,	W. Wilson Saunders.

A Silver Cup, value $25, for the best three roses of one variety, to John B. Moore & Co., for Duke of Edinburgh.

A Silver Cup, value $25, for the best six roses of one variety, to Norton Brothers, for Mme. la Baronne de Rothschild.

A Silver Cup, value $25, for the best twelve roses of one variety, to John C. Chaffin, for Mme. la Baronne de Rothschild.

Society's Prizes.

Hardy Perpetual Roses. For six new varieties sent out since 1876, the first prize was awarded to John B. Moore & Co., for

Alfred K. Williams,	Doctor Sewell,
Barthélmy Joubert,	Grand Duc Nicolas,
Boïeldieu,	Princesse Blanche d'Orleans.

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st twenty-four varieties, three of each, to John B.
for

ramerel	Marguerite de St. Amand,
Lefebvre,	Marie Beauman,
f Wellington,	Marquise de Castellane,
Jamain,	May Turner,
nd de Lesseps,	Mlle. Bonnaire,
Holmes,	Mme. Nachury,
Forey,	Mme. Victor Verdier,
Jacqueminot,	Paul Neron,
pper,	Peach Blossom,
rgottin,	Richard Wallace,
usberg,	Thomas Mills,
e,	Vicomtesse de Vézins.

rieties, to John L. Gardner, and for the best six same. No list was furnished of either of these

eties, to John B. Moore & Co., for Perfection des Laxton, and Duke of Edinburgh.

For the best six varieties the first prize went to & Co. for

de Murinais,	Prolific or Gracilis,
Etna,	Violacée,
	Zaïre.

ties, to John B. Moore & Co., for Gloire des ted, and Quatre Saisons.

d that the two fine old varieties Duke of Edin- a Baronne de Rothschild still maintain their char- ibition Roses.

ZE FOR STOVE AND GREENHOUSE PLANTS.

f the value of $20, for the best Group of twenty use Ornamental Foliaged Plants, was awarded r

ense,	*Bertolonia Van Houttei*,
imum,	*Caladium Chantinii*,
	" *Herold*,
iana,	" *Souvenir de Mme.*
nii,	*André*,

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Cocos Weddelliana,
Croton Lord Derby,
" *Queen Victoria*,
" *Williamsii*,
Cyanophyllum magnificum,
Dieffenbachia Bausei,
Dracæna Baptistii,
" *Goldieana*,
" *Leopoldii*,
Hydrangea Japonica var.,
Pandanus Veitchii.

ANNUAL EXHIBITION.

September 13, 14, 15, and 16.

This presented special attractions from the fact that the American Pomological Society, by invitation, made its exhibition in our Halls, while the display of plants and flowers was held at Music Hall. The latter was somewhat differently arranged from the usual plan, and with excellent effect, having through its centre a platform containing about eight hundred square feet of surface upon which were grouped by H. H. Hunnewell and Samuel R. Payson splendid collections of plants, arranged with artistic skill, and blending their varied hues with perfect success. On each side were two smaller platforms filled with plants from F. L. Ames, Hovey & Co., J. Warren Merrill, Hon. Francis B. Hayes, John L. Gardner, and Miss Pratt; these were choice in quality, though not all as large as those in the central group, which together with them, filled the body of the Hall with a mass of beautiful foliage. Upon the stage in front of the organ, William Gray, Jr., placed some fine tropical plants, and on the front edge were ranged a row of caladiums from Messrs. Hovey & Co., and Edwin Sheppard. At the sides of the Hall were stands filled with cut flowers by Mrs. A. D. Wood, Mrs. E. M. Gill, Messrs. Hovey & Co., C. W. Ross, J. W. Manning, William S. Ewell, James Nugent, and others, reflecting the greatest credit on all concerned in the display, which was the finest we have ever seen.

The seats were removed from the front lower gallery, and two rows of stands for flowers placed there, which were filled with fine collections of gladioli from James Cartwright, Norton Brothers, and A. McLaren; native flowers from Mrs. C. N. S. Horner and Miss M. E. Carter; and foliage and flowers of rare hardy trees and shrubs from the Arnold Arboretum and W. C. Strong & Co. Under the gallery Mr. Manning arranged a large assortment of evergreens, and baskets filled with plants from Mr. Ewell, were suspended

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here there was also a display of orchids from Mr.

Special Prizes.

EENHOUSE PLANTS. S. R. Payson was awarded the value of $40, for twelve Ornamental Foliaged ıouse Plants. They were

ea,	*Dracæna Hendersonii*,
tallinum,	*Erythrina marmorata*,
ına,	*Maranta Van den Heckei*,
s,	*Pandanus Veitchii*,
,	*Phyllotœnium Lindeni*,
stii,	*Sphœrogyne latifolia*.

ze for the same, a Silver Cup of the value of $25, . L. Ames, for

eyense,	*Curculigo recurvata variegata*,
i,	*Dracœna Baptistii*,
ı,	*Ficus Parcelli*,
m (Wax Palm),	*Maranta Lindeni*,
olium,	" *virginalis*,
s,	*Nepenthes distillatoria*.

ook the Silver Cup of the value of $40, for ten house plants — five foliage, and five in bloom, :

Foliage Plants.

ile,	*Cyanophyllum magnificum*,
	Dracœna Hendersonii,
Victoria,	

Flowering Plants.

ottii,	*Ixora Williamsii*,
	Odontoglossum grande.
rleyana,	

e for the same, a Silver Cup of the value of $20, . H. Hunnewell, for the following:

Foliage Plants.

	Maranta fasciata,
,	*Sphœrogyne latifolia*,

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Flowering Plants.

Anthurium Scherzerianum,
Begonia rubra,
Clerodendrom fallax,
Ixora Amboinensis,
Nerium Oleander album flore pleno.

Dahlias. The Subscription Prize, a Piece of Plate of the value of $10, for the best twenty-four dissimilar blooms, was awarded to E. Sheppard, for

America,
Annie Neville,
Charles Leicester,
Constancy,
Duke of Connaught,
Emily Edwards,
Henry Glascock,
Hercules,
James Cocker,
J. C. Reid,
John Bennett,
John Lamont,
John MacPherson,
John Wyatt,
King of Primroses,
Letty Coles,
Michael Saunders,
Mrs. Hodgson,
Mrs. Swan,
Paul of Paisley,
Picotee,
Prince Bismark,
Stafford Gem,
Vivid.

CHRYSANTHEMUM SHOW.

November 9.

Although very good, this was not as large as in some former years, the frost early in October undoubtedly injuring the plants to a certain extent. The contributors of plants were Dr. H. P. Walcott, H. L. Higginson, and Norton Brothers. Cut blooms were shown by Dr. Walcott, E. W. Wood, B. G. Smith, Mrs. E. M. Gill, and E. Sheppard.

Orchids were shown by F. L. Ames, in his usual choice kinds.

Miss E. H. Craft presented for the third time a design of autumn flowers, excelling her previous efforts. The design was the object of universal admiration for its beauty of form and exquisite combination of colors.

MISCELLANEOUS EXHIBITS.

President Francis B. Hayes has been a constant contributor throughout the season, his exhibits being peculiarly valuable, and in variety of flowers embracing a wide range from week to week,

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duplicating his previous shows, and thereby adding greatly
ge and variety of our weekly displays.
FLOWERS.—The shows during the season have been re-
y good; Mrs. A. D. Wood, Mrs. E. M. Gill, James
Mrs. L. P. Weston, George Craft, and E. Fewkes, com-
r the prizes.
OF FLOWERS.—We notice a great improvement in these.
S.—The prizes for Annuals, such as Petunias, Phlox
dii, Sweet Peas, Tropæolums, Double Zinnias, Dianthus,
olds, have found a large competition, and the displays
kably good.
AL PHLOXES from John B. Moore & Co. were notice-

have not been shown in as large quantities as last
very good flowers have appeared from time to time.
J. F. Marble was awarded the first prize for twenty
ties in excellent flowers; George Craft, the first for
R. T. Jackson, for six spikes, and Franklin Batcheller
r a single spike, the variety being Baroness Burdett
ry large and beautiful flower; color, delicate lilac
ose. It is of very vigorous growth.
ors for the general display were James Cartwright,
and Herbert Gleason.
—August 20th, Edward Haskell, of New Bedford,
ne assortment of *Nymphæas* in the varieties *rubra*,
d *cærulea*. Mr. Haskell is a very successful culti-
beautiful genus, and his collection is perhaps un-
section of the country.
VERS have not been shown as frequently as in
it on the 6th of August, the collections of Mrs. C.
nd Mrs. A. J. Dolbear were very large, embracing
with the names attached.
f May, E. H. Hitchings presented several rare
- *Nardosmia palmata* (never shown here before),
, *V. rostrata*, *Asarum Canadense*, and *Gaultheria*

following Alpine Plants, collected on the Craw-
Mount Washington, N. H., by Edwin Faxon,

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Arctostaphylos alpina,
Azalea procumbens,
Diapensia Lapponica,
Empetrum nigrum,
Potentilla frigida,
Rhododendron Lapponicum,
Rubus Chamœmorus.

August 27th, Charles E. Marsh and Charles E. Pecker presented a new variety of *Nymphœa* (Pond lily), three weeks earlier than the common white. It was found two miles from the Kennebec river.

September 3, O. M. Holmes exhibited *Nelumbium luteum*, a very rare native species.

At the Annual Exhibition we had from Mrs. Catherine Starbuck, of Nantucket, a collection of plants; among them the following, which have never been shown here before:—*Hypericum adpressum*, *Sabbatia gracilis*, *Spiranthes simplex*, and *Erythræa spicata*.

The amount of money prizes and gratuities awarded, is $1,494, out of the appropriation of $1,500.

Prizes have been awarded from the Hunnewell fund to the amount of $64.

All which is respectfully submitted.

WM. H. SPOONER,
E. H. HITCHINGS,
J. H. WOODFORD,
F. L. HARRIS,
JAMES CARTWRIGHT,
PATRICK NORTON,
CHARLES W. ROSS,
} *Committee on Plants and Flowers.*

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TIES AWARDED FOR PLANTS D FLOWERS.

January 1.

Flowers, ...	$1 00

January 8.

Flowers, ...	1 00
"	1 00
morei, ...	2 00

January 15.

Flowers, ...	1 00
pot, ...	1 00

January 22.

Flowers, ...	1 00

January 29.

of Flowers, ...	2 00
m nobile and Lilacs, ...	1 00
ainvillea and Bignonia, ...	1 00

February 5.

y of Flowers, ...	2 00
Roses, ...	3 00
e in pot, ...	2 00
. . . . .	1 00

February 12.

tion of Plants, ...	5 00
ay of Flowers, ...	2 00
" "	1 00
brid Perpetual Roses, ...	2 00

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David Allan, *Clianthus Dampieri*, ... $1 00
John L. Gardner, Violets, ... 2 00
Hovey & Co., Large Display of Camellias, ... 5 00

FEBRUARY 19.

Gratuity:

Hovey & Co., Camellias, ... 2 00

FEBRUARY 26.

Gratuities:—

Francis B. Hayes, Display of Flowers, ... 2 00
Benjamin G. Smith, Carnations, ... 1 00
Hovey & Co., Camellias, ... 2 00
Joseph H. Woodford, Hyacinths, ... 1 00
C. B. Gardiner, Cyclamen, ... 1 00

MARCH 5.

Gratuities:—

John B. Moore, Hybrid Perpetual Roses, ... 3 00
Hovey & Co., Camellias, ... 2 00
Henderson Inches, Hyacinths, ... 1 00
Francis B. Hayes, Display of Flowers, ... 2 00
Mrs. E. M. Gill, " " " 1 00

MARCH 12.

Gratuities:—

Francis B. Hayes, Display of Flowers, ... 2 00
Hovey & Co., Camellias, ... 1 00

AZALEA AND ROSE SHOW.

MARCH 17.

Special Prize.

OFFERED BY A MEMBER OF THE SOCIETY.

For Nurserymen and Florists only.

Group of twenty Stove and Greenhouse Plants, distinct species, grown in pots not over eight inches in diameter, six to be in bloom, Hovey & Co., Silver Cup, value, ... $20 00

Society's Prizes.

INDIAN AZALEAS, Six named varieties, in pots, Francis B. Hayes, . $12 00
Two named varieties, H. H. Hunnewell, ... 8 00
Specimen Plant, Norton Brothers, ... 5 00

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ot exceeding ten-inch pots, Marshall	
. . . . .	$8 00
g a six-inch pot, Hovey & Co., . .	4 00
Single plant. Francis B. Hayes, . .	5 00
amed varieties, John B. Moore, . .	6 00
ied varieties, John B. Moore, . .	3 00
. . . . .	2 00
re, ...	2 00
. . . . .	1 00
lish, basket, or vase, William J. Vass,	5 00
others, ...	3 00
imen, in bloom, other than Azalea or	
. . . . .	5 00
es, ...	4 00
bloom, F. L. Ames, ...	10 00
ht, ...	6 00
L. Ames, ...	5 00
. . . . .	3 00
not over eight-inch pots, in bloom, C. B.	
. . . . .	4 00
oom, John L. Gardner, ...	3 00
ll, ...	2 00
single flowered, in bloom, John L. Gard-	
. . . . .	2 00
ered, in bloom, Hovey & Co., . . .	2 00
m, John L. Gardner, ...	3 00
s, in pots, John L. Gardner, . . .	5 00
L. Gardner, ...	4 00
n L. Gardner, ...	2 00
n L. Gardner, ...	3 00
h pots, John L Gardner, ...	3 00
named varieties, cut flowers with foliage,	
e blooms, Hovey & Co., ...	4 00
, ...	3 00
& Co., ...	3 00
dner, ...	2 00
filling 50 bottles, not including Roses, Mrs.	
. . . . .	3 00
Wood, ...	2 00
, James Nugent, ...	3 00
-Best arranged, the second prize to Mrs. E.	
. . . . .	2 00
aleas in pots, ...	4 00
" " "	4 00

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William J. Vass, Hybrid Perpetual Roses,	$2 00
Norton Brothers, " " "	2 00
W. C. Strong & Co., " " " in pots,	1 00
Mrs. A. D. Wood, Basket of Flowers,	3 00
Hovey & Co., Display of Camellias,	1 00
E. Sheppard, Pansies,	1 00
" " Display of Flowers,	2 00
Mrs. L. P. Weston, " " "	2 00
Francis B. Hayes, " " "	2 00
" " " Rhododendrons and Azaleas,	1 00
" " " Camellias,	5 00
James Cartwright, Orchids,	4 00
Norton Brothers, Plants,	3 00
Hovey & Co., "	

Gratuities: — MARCH 28.

John B. Moore, Hybrid Perpetual Roses,	1 00
W. C. Strong & Co., Mme. la Baronne de Rothschild Roses,	1 00
Hovey & Co., Camellias,	2 00
Francis B. Hayes, Display of Flowers,	2 00

Gratuities: — APRIL 2.

Francis B. Hayes, Azalea Charmer,	1 00
Hovey & Co., Camellias,	1 00
Francis B. Hayes, Display of Flowers,	2 00
Mrs. E. M. Gill, " " "	1 00

Gratuities: — APRIL 9.

Francis B. Hayes, Heaths and Amaryllis,	2 00
John E. Peabody, Plants,	5 00
" " Orchids,	2 00
John L. Gardner, Polyanthus,	2 00
Hovey & Co., Camellias,	1 00
" " Azaleas,	2 00
" " Epidendrums,	1 00
" " Lily of the Valley,	1 00
Francis B. Hayes, Display of Flowers,	2 00

Gratuity: — APRIL 16.

Francis B. Hayes, Display of Plants and Flowers,	2 00

Gratuities: — APRIL 23.

John L. Gardner, Plants,	10 00
Francis B. Hayes, Ericas,	2 00

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. . . . .	$1 00
owers, ...	1 00
"	1 00

APRIL 30.

lowers, ...	1 00
"	1 00
"	1 00
" and Plants, . . .	1 00
"	1 00
ilies in pots, ...	1 00
. . . . .	1 00

NIUM EXHIBITION.

MAY 7.

in pots, John E. Peabody, . .	$5 00
, ...	3 00
ody, ...	1 00
asket of Flowers.—Mrs. A. D. Wood,	3 00
. . . . .	2 00
n pots, ...	3 00
elargoniums, ...	3 00
ter Grieve, ...	1 00
dromedas, ...	1 00
flowers, ...	2 00
"	2 00
f Flowers, ...	2 00
" "	2 00
" "	1 00
nts, ...	1 00

MAY 14.

iæ, ...	2 00
Ptaksa, ...	1 00
, ...	1 00

MAY 21.

na Crista-galli, ...	1 00
of Flowers, ...	2 00
" "	2 00
owers, ...	2 00
ive Flowers, ...	1 00

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RHODODENDRON SHOW.

JUNE 4.

Hunnewell Premiums.

HARDY AZALEAS.—Eighteen named varieties, Francis B. Hayes,	$12 00
Six named varieties, E. Sheppard,	4 00
Second, B. G. Smith,	3 00
Cluster of trusses, of one variety, B. G. Smith,	2 00
AZALEA MOLLIS.—Six trusses, of different varieties, Francis B. Hayes,	2 00

Society's Premiums.

TREE PÆONIES.—Six named varieties, Marshall P. Wilder,	3 00
Second, Marshall P. Wilder,	2 00
CUT FLOWERS.—Display, filling 100 bottles, W. K. Wood,	4 00
Second, Mrs. E. M. Gill,	3 00
HARDY FLOWERING SHRUBS.—Twelve named varieties, B. G. Smith,	3 00
NATIVE PLANTS.—Display of named species and varieties, Mrs. C. N. S. Horner,	4 00
CLEMATIS.—Early named varieties, display of cut blooms, Joseph H. Woodford,	3 00
TABLE DESIGN, other than a Basket of Flowers, Mrs. A. D. Wood,	4 00

Gratuities:—

Francis B. Hayes, Ericas,	3 00
John B. Moore, Clematis, Iris, etc.,	2 00
Joseph Tailby, Carnations,	1 00
B. G. Smith, Pansies,	1 00
H. H. Hunnewell, Display,	5 00
Francis B. Hayes, "	5 00
John L. Gardner, "	2 00
E. Sheppard, "	2 00
Mrs. L. P. Weston, "	2 00
James Nugent, "	2 00
Hovey & Co., "	2 00
B. G. Smith, "	1 00

JUNE 11.

Hunnewell Premiums.

HARDY RHODODENDRONS.—Thirty-six named varieties, one truss each, Francis B. Hayes,	15 00
Eighteen named varieties, Francis B. Hayes,	8 00
Second, John L. Gardner,	6 00
Twelve named varieties, Francis B. Hayes,	6 00
Three trusses of blooms, of one variety, Francis B. Hayes,	4 00
Second, Francis B. Hayes,	2 00

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drons, ...	$6 00
s, Azaleas, and Clematis, . . .	3 00
of Flowers, ...	1 00
rs from the White Mountains, . .	2 00
of Flowers, ...	3 00
" "	2 00
" "	1 00
" "	1 00

ROSE SHOW.

JUNE 28.

Special Prizes.

.—Twenty-four varieties, three specimens	
ıy, Jr., a Challenge Cup, value, . .	$150 00
t varieties, William H. Spooner, Silver	25 00
t varieties, J. S. Richards, Silver Cup, ...	25 00
ent varieties, William Gray, Jr., Silver	25 00
riety, John B. Moore & Co., Silver Cup, ...	25 00
y, Norton Brothers, Silver Cup, value, .	25 00
e variety, John C. Chaffin, Silver Cup, ...	25 00

Society's Prizes.

s.—Six new varieties, sent out since 1876,	
o., ...	6 00
med varieties, John B. Moore & Co., .	20 00
stis, ...	15 00
varieties, John L. Gardner, . . .	10 00
Hayes, ...	8 00
e & Co., ...	6 00
eties, John L. Gardner, ...	6 00
ore & Co., ...	5 00
s, ...	4 00
arieties, John B. Moore & Co., . . .	4 00
Hayes, ...	3 00
Barry, Rochester, N. Y., ...	2 00
d varieties, three clusters of each, John B.	5 00
ore & Co., ...	3 00

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Three named varieties, three clusters of each, John B. Moore & Co., ... $3 00
Second, William H. Spooner, ... 2 00
Tea and Bourbon Roses.—Twelve cut blooms, Norton Brothers, 3 00
General Display, of all classes, Norton Brothers, . . . 10 00
Second, W. C. Strong & Co., ... 8 00
Third, J. S. Richards, ... 5 00

Special Prize.

OFFERED BY A MEMBER OF THE SOCIETY.

Group of twenty Stove and Greenhouse Ornamental Foliaged Plants, S. R. Payson, Silver Cup, value, ... 20 00

Society's Prizes.

Stove and Greenhouse Flowering Plants.—Six distinct varieties, in bloom, F. L. Ames, ... 10 00
Second, John L. Gardner, ... 8 00
Specimen Plant.—Regard being had to new and rare varieties, F. L. Ames, ... 6 00
Second, John L. Gardner, ... 4 00
Herbaceous Pæonies.—Ten named varieties, Hovey & Co., . . 3 00
Sweet Williams.—Thirty trusses, of not less than six distinct varieties, E. Sheppard, ... 3 00
Second, A. McLaren, ... 2 00
Third, Mrs. E. M. Gill, ... 1 00
Summer Herbaceous Plants.—Display of named species and varieties, filling twenty-five bottles, Hovey & Co., . . . 4 00
Second, James Nugent, ... 3 00
Vase of Flowers.—Best arranged, in one of the Society's glass vases, James O'Brien, ... 5 00
Second, Mrs. A. D. Wood, ... 4 00
Third, Francis B. Hayes, ... 3 00

Gratuities:—

Ellwanger & Barry, Rochester, N. Y., Display of Roses, . . 10 00
William H. Spooner, " " " . . . 3 00
O. B. Hadwen, " " " . . . 1 00
Norton Brothers, Basket of Roses, ... 1 00
Patten & Co., Tender Roses, ... 2 00
E. Sheppard, Tuberous Begonias, and other plants, . . . 10 00
Ellwanger & Barry, Trees and Shrubs, ... 3 00
James Cartwright, Orchids, ... 2 00
John C. Hovey, Pæonies and Pyrethrums, ... 1 00
Miss E. M. Harris, Pæonies, ... 1 00
William S. Ewell, Display, ... 2 00
Mrs. A. D. Wood, " 2 00

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, ...	$2 00
. . . . .	2 00
. . . . .	1 00
. . . . .	1 00
. . . . .	1 00

JULY 2.

.—Twenty-five blooms, John B. Moore	
. . . . .	5 00
e & Co., ...	4 00
illing 100 bottles, W. K. Wood, . .	4 00
ll, ...	3 00
. . . . .	2 00
nged, James O'Brien, ...	3 00
of Roses, ...	3 00
of Clematis, ...	1 00
eonies, ...	1 00
of Flowers, ...	1 00

JULY 9.

ve spikes, Herbert Gleason, . . .	3 00
. . . . .	2 00
t arranged, in one of the Society's Glass	
en, ...	5 00
Vood, ...	3 00
Kæmpferi, ...	1 00
ay of Flowers, ...	1 00
" "	2 00
" "	1 00
" "	1 00
" "	1 00
" "	1 00

JULY 16.

ooms, of twelve distinct colors, John L.	
. . . . .	4 00
nct colors, John B. Moore & Co., . .	2 00
, ...	1 00
distinct colors, E. Sheppard, . . .	1 00
Moore & Co., ...	2 00
ore & Co., ...	1 00
filling 100 bottles, W. K. Wood, . .	4 00
Gill, ...	3 00
eston, ...	2 00

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Gratuities:—

Herbert Gleason, *Lilium candidum*,	$2 00
E. Sheppard, Hollyhocks,	1 00
" " Pelargoniums,	1 00
Hovey & Co., Display of Flowers and Foliage,	2 00
George Craft, " " "	2 00
J. W. Manning, " " "	1 00
Mrs. E. S. Joyce, " " "	1 00

JULY 23.

PERENNIAL PHLOXES.—Six distinct named varieties, one spike of each, the second prize to E. Sheppard,	2 00
PELARGONIUMS.—Twelve double and single varieties, E. Sheppard,	2 00
Second, Mrs. E. M. Gill,	1 00

Gratuities:—

John B. Moore & Co., Hollyhocks,	1 00
Miss E. M. Harris, "	1 00
James Nugent, "	1 00
E. Sheppard, "	1 00
John L. Gardner, *Erica Parmentieriana rosea*,	1 00
Edwin Fewkes, Petunias,	1 00
George Craft, Sweet Peas and Nasturtiums,	1 00
" " Display of Flowers,	2 00
Francis B. Hayes, " " "	2 00
W. K. Wood, " " "	2 00
J. W. Manning, " " "	1 00
Mrs. E. S. Joyce, " " "	1 00
E. H. Hitchings, Native Plants,	1 00

JULY 30.

HYBRID PERPETUAL ROSES.—Twenty-five blooms, Francis B. Hayes,	5 00
CUT FLOWERS.—Display, filling 100 bottles, Mrs. E. M. Gill,	4 00
Second, George Craft,	3 00
Third, W. K. Wood,	2 00
Collection of not less than eighteen named species of Annuals and Herbaceous Perennials, Mrs. E. S. Joyce,	3 00
Second, George Craft,	2 00
VASE OF FLOWERS.—Best arranged, in one of the Society's glass vases, Mrs. A. D. Wood,	2 00
Second, James O'Brien,	1 00

Gratuities:—

Francis B. Hayes, Hydrangeas,	3 00
John B. Moore, Phloxes and Hollyhocks,	1 00

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Flowers,	$2 00
"	1 00
"	1 00
f Native Flowers,	1 00

AUGUST 6.

distinct named varieties, one spike each,	
	3 00
& Co.,	2 00
g 30 bottles, Edwin Fewkes,	3 00
	2 00
	1 00
lling 100 bottles, Mrs. E. M. Gill,	4 00
	3 00
	2 00
tion, Mrs. C. N. S. Horner,	3 00
lbear,	2 00
	1 00
of Flowers,	2 00
" "	1 00
" "	2 00
" "	1 00
t of Native Flowers,	1 00

AUGUST 13.

fty bottles, not less than six varieties,	3 00
right,	2 00
s than eighteen named species of Annuals	
erennials, Hovey & Co ,	3 00
ft,	2 00
ls,	3 00
	2 00
hus,	1 00
ladioli,	1 00
	1 00
	1 00
odorata, var. *rosea*,	1 00
ay of Flowers,	3 00
" "	1 00
" "	1 00
ign of Ferns and Native Flowers,	1 00

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AUGUST 20.

ASTERS. — Large Flowered, or Victoria, — Thirty blooms, not less than ten varieties, John L. Gardner,	$4 00
Second, James Nugent,	3 00
Third, Francis B. Hayes,	2 00
Chrysanthemum. — Thirty blooms, not less than eight varieties, John L. Gardner,	4 00
Victoria, or Chrysanthemum, or both. — Six plants in pots, John L. Gardner,	4 00
Pompon. — Six plants in pots, F. Skinner, Jr.,	4 00
SWEET PEAS. — Display, filling 25 bottles, Mrs. A. D. Wood,	3 00
Second, George Craft,	2 00
BASKET OF FLOWERS. — Best arranged, Mrs. E. M. Gill,	2 00
Gratuities: —	
Francis B. Hayes, New Begonias,	2 00
" " Display of Flowers,	3 00
John B. Moore & Co., " " "	2 00
B. G. Smith, " " "	1 00

AUGUST 20.

GLADIOLI. — Twenty named varieties, in spikes, J. F. Marble,	6 00
Ten named varieties, in spikes, George Craft,	4 00
Second, John B. Moore & Co.,	5 00
Six named varieties, in spikes, R. T. Jackson,	3 00
Single spike, named, Franklin Bacheller,	1 00
Display of named and unmamed varieties, filling 100 bottles, James Cartwright,	6 00
Second, George Craft,	4 00
Third, Herbert Gleason,	2 00
Gratuities: —	
E. Sheppard, Dahlias and Pelargoniums,	1 00
John L. Gardner, Dahlias,	1 00
Mrs. A. D. Wood, Display of Flowers,	2 00
Mrs. E. M. Gill, " " "	2 00
Hovey & Co., " " "	1 00
Mrs. E. S. Joyce, " " "	1 00

AUGUST 27.

TROPÆOLUMS. — Display filling 25 bottles, William H. Spooner,	3 00
Second, Francis B. Hayes,	2 00
CUT FLOWERS. — Display filling 100 bottles, Mrs. E. M. Gill,	4 00
Second, Edwin Fewkes,	3 00
Third, Mrs. A. D. Wood,	2 00

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. . . . .	$2 00
. . . . .	2 00
. . . . .	1 00
opæolums, ...	1 00
ıd Phloxes, ...	2 00
f Flowers, ...	2 00
"	2 00
lowers, ...	1 00

SEPTEMBER 3.

—Twenty-five blooms, Francis B. Hayes,	3 00
flowers, not less than six varieties, Fran-	
. . . . .	4 00
. . . . .	3 00
. . . . .	2 00
ennial varieties,—collection filling 50 bot-	
y, ...	3 00
. . . . .	2 00
bottles, three flowers in each, Hovey & Co.,	3 00
ayes, ...	2 00
. . . . .	1 00
t blooms, Francis B. Hayes, . . .	3 00
. . . . .	2 00
ıy of Flowers, ...	2 00
" "	1 00
tive Flowers, ...	2 00

NNUAL EXHIBITION.

EPTEMBER 13, 14, 15, and 16.

Special Prizes.

D BY A MEMBER OF THE SOCIETY.

EENHOUSE PLANTS.—Ornamental Foliage,	
-inch pots, S. R. Payson, Silver Cup, value,	$40 00
, Silver Cup, value, ...	25 00

OFFERED BY AN AMATEUR.

HOUSE PLANTS. — Five foliage and five in	
er ten-inch pots, not more than one orchid	
Ames, Silver Cup, value, ...	40 00
newell, Silver Cup, value, ...	20 00

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Subscription Prize.

DAHLIAS.—For the best twenty-four dissimilar blooms, E. Sheppard & Son, Piece of Plate, value, ... $10 00

Society's Prizes.

GREENHOUSE PLANTS.—Twelve Greenhouse and Stove Plants of different varieties, one Dracæna and one Croton admissible, H. H. Hunnewell, ... 30 00
Second, S. R. Payson, ... 25 00

SPECIMEN FLOWERING PLANT.—Francis B. Hayes, ... 5 00
Second, John L. Gardner, ... 4 00

VARIEGATED LEAVED PLANTS.—Six varieties not offered in the collection of greenhouse plants, Dracænas not admissible, H. H. Hunnewell, ... 12 00
Single specimen, not offered in any collection, H. H. Hunnewell, ... 5 00
Second, John L. Gardner, ... 4 00

CALADIUMS.—Six varieties, E. Sheppard & Son, ... 5 00
Second, Hovey & Co., ... 4 00

FERNS.—Six named varieties, J. Warren Merrill, ... 6 00
Second, F. L. Ames, ... 4 00

ADIANTUMS.—Six varieties, S. R. Payson, ... 6 00
Second, Hovey & Co., ... 4 00

TREE FERN.—Single Specimen, J. Warren Merrill, ... 6 00
Second, Francis B. Hayes, ... 4 00

LYCOPODS.—Four named varieties, William Gray, Jr., ... 3 00

DRACÆNAS.—Six named varieties, H. H. Hunnewell, ... 8 00

PALM.—Single specimen, F. L. Ames, ... 5 00
Second, H. H. Hunnewell, ... 4 00

NEPENTHES.—Three plants, named, F. L. Ames, ... 6 00

AGAVES.—Six distinct varieties, John C. Hovey, ... 6 00
Second, Hovey & Co., ... 4 00

CACTI.—Twelve species and varieties, Benjamin Gray, ... 5 00

SUCCULENTS.—Collection, of twelve species, other than Agaves, Yuccas, or Cacti, John C. Hovey, ... 5 00

BEGONIAS.—Tuberous-rooted,—Six named varieties, Francis B. Hayes, ... 5 00

GLADIOLI.—Best display, and best kept during the exhibition, of named and unnamed varieties, filling 100 bottles, James Cartwright, ... 10 00
Second, A. McLaren, ... 8 00

DAHLIAS.—Twelve named varieties, John L. Gardner, ... 5 00
Second, S. G. Stone, ... 4 00
Six named varieties, James Nugent, ... 3 00
Second, S. G. Stone, ... 2 00
Third, O. B. Hadwen, ... 1 00

Single named flower, Fancy or Self, John L. Gardner, ... 2 00
Second, James Nugent, ... 1 00

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display, filling 25 bottles, J. F.	
. . . . .	$3 00
. . . . .	2 00
ıd best kept during the exhibition,	
D. Wood, ...	16 00
. . . . .	14 00
. . . . .	12 00
ırranged and best kept during the	
yce, ...	5 00
f Plants, ...	8 00
"	6 00
"	5 00
"	4 00
"	4 00
"	4 00
. . . . .	3 00
. . . . .	1 00
f Hardy Trees and Shrubs, . . .	5 00
. . . . .	2 00
. . . . .	2 00
. . . . .	2 00
Gladioli, ...	1 00
. . . . .	2 00
. . . . .	1 00
. . . . .	1 00
Baskets, ...	5 00
ers, ...	3 00
f Flowers, ...	1 00
f Flowers, ...	4 00
s, ...	1 00
ascula, ...	1 00
of Flowers, ...	5 00
" "	3 00
" "	3 00
" "	1 00
" "	1 00
" "	1 00
e Flowers, ...	3 00
"	3 00
Native Plants, ...	1 00
" "	1 00
OCTOBER 1.	
d varieties, E. Sheppard, ...	5 00
. . . . .	4 00
. . . . .	3 00

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Six named varieties, James Nugent,	$3 00
Second, E. Sheppard,	2 00
Third, Miss C. Smith,	1 00
Vase of Flowers.—Mrs. E. M. Gill,	4 00
Second, Mrs. A. D. Wood,	3 00

CHRYSANTHEMUM SHOW.

November 9.

Chrysanthemums.—Six Large Flowered, or Chinese, H. L. Higginson,	8 00
Second, H. P. Walcott,	6 00
Six Japanese varieties, H. P. Walcott,	8 00
Second, H. L. Higginson,	6 00
Four Pompon varieties, H. L. Higginson,	4 00
Second, H. P. Walcott,	3 00
Six Large Flowered, or Chinese, in six-inch pots, H. L. Higginson,	5 00
Second, Patrick Malley,	3 00
Specimen Plant, Large Flowered, or Chinese, H. L. Higginson,	4 00
Second, H. P. Walcott,	3 00
Specimen Plant, Japanese, H. L. Higginson,	4 00
Second, H. P. Walcott,	3 00
Specimen Plant, Anemone Flowered, H. L. Higginson,	3 00
Second, H. P. Walcott,	2 00
Specimen Plant, Pompon, H. L. Higginson,	3 00
Second, H. P. Walcott,	2 00
Twelve Cut Blooms, Large Flowered, or Chinese, H. P. Walcott,	4 00
Second, E. W. Wood,	3 00
Six Cut Blooms, Large Flowered, or Chinese, Benjamin G. Smith,	3 00
Second, H. P. Walcott,	2 00
Twelve Sprays of Pompons, H. P. Walcott,	2 00
Second, E. W. Wood,	1 00
Six Sprays of Japanese, H. P. Walcott,	3 00
Second, E. W. Wood,	2 00
Display of named varieties of any or all classes, 30 bottles, H. P. Walcott,	4 00
Second, E. W. Wood,	3 00
Orchids.—Three varieties, in bloom, F. L. Ames,	8 00
Second, F. L. Ames,	6 00
Single plant, in bloom, F. L. Ames,	4 00
Second, John L. Gardner,	3 00
Hand Bouquets.—Pair, James Nugent,	2 00
Second, Mrs. E. M. Gill,	1 00

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Plants, ...	$6 00
"	5 00
Flowers, ...	1 00
"	1 00
ers, ...	5 00
. . . . .	5 00

VEMBER 26.

nica, ...	3 00

CEMBER 17.

wers, ...	2 00

ER MEDALS.

, Collection of Epacris.
Collection of Primulas.
, *Sophronitis grandiflora.*
endrobium Wardianum.
17. F. L. Ames, Orchids.
lection of Ericas.
Woolson & Co., Collection of Herbaceous

rd, *Odontoglossum Roezlii.*
Hallock, Son, & Thorpe, Seedling Double

Kæmpferi in variety.
ling Japanese Hollyhocks.
New Shrubs.
hæas in variety.
13–16. William H. Spooner, Collection of
s and Tropæolums.
n, gardener to Miss Pratt, *Lastrea Rich*
ifida.
s, Seedling Dracænas.
Manning, Collection of Evergreens.
ber 9. F. L. Ames, *Anthurium Andreanum.*
H. Craft, Design of Autumn Flowers.
r, *Odontoglossum grande.*

NZE MEDALS.

New Rhododendrons.
13–16. W. C. Strong & Co , Collection of
es and Shrubs.
nith, Collection of Single Dahlias.

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FIRST CLASS CERTIFICATES OF MERIT.

February 5. Francis B. Hayes, New Rose, George Bancroft.
February 12. " " " Clematis in Pots.
March 5. Marshall P. Wilder, Seedling Azalea, Marshall Pinckney Wilder.
" " Jackson Dawson, *Andromeda Japonica.*
Azalea and Rose Show, March 17. Hovey & Co., Seedling Azaleas.
March 28. John B. Moore & Co., New Roses.
" " Hovey & Co., Chrysanthemums.
April 2. Jackson Dawson, *Rosa multiflora.*
April 30. E. L. Beard, Pansy Odier.
June 28. Francis B. Hayes, Rhododendrons and Roses.
Rose Show, June 28. V. H. Hallock, Son, & Thorpe, *Iris Kæmpferi* in variety.
" " " " F L. Ames, *Cypripedium superciliare.*
" " " " Eben Bacon, Tuberous-rooted Begonias.
" " " " J. Warren Merrill, New Ferns.
July 9. Edwin Fewkes, *Chrysanthemum carinatum.*
" " H. P. Walcott, Seedling Delphiniums.
" " Francis B. Hayes, *Lilium Takesima.*
July 23. " " " Tuberous-rooted Begonias.
" " " " " *Lilium longiflorum var.*
" " " " " Seedling Gloxinias.
August 6. John B. Moore & Co., Seedling Phlox, No. 12.
August 13. A. H. Fewkes, Seedling Hybrid Begonias.
" " E. Sheppard, Seedling Delphiniums.
August 20. J. W. Manning, Trees and Shrubs.
" " E. Sheppard, Seedling Gloxinias.
August 27. Hovey & Co., Fifty species and varieties of Trees and Shrubs.
" " W. C. Strong & Co., Foliage of Hardy Plants.
" " Francis B. Hayes, Rhododendron Princess Hélène.
" " George Craft, *Papaver umbrosum.*
September 3. O. W. Holmes, *Nelumbium luteum.*
Annual Exhibition, September 13–16. Henry Ross, *Alternanthera latifolia aurea.*
" " Hovey & Co., New Single Dahlias.
" " M. H. Simpson, Seedling Coleus.
October 1. Francis B. Hayes, *Stenocarpus Cunninghami.*
Chrysanthemum Show, November 9. F. L. Ames, *Ipomæa Horsfallia.*
" " H. P. Walcott, Seedling Chrysanthemums.

PROSPECTIVE PRIZE.

James F. C. Hyde, Hyde's White Gladiolus.

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PORT

OF THE

e on Fruits,

HE YEAR 1881.

WOOD, CHAIRMAN.

---

hibits of the past year, we can hardly
ılized the expectations which the open-
ıffering from extreme cold during the
ı almost any other portion of our coun-
l with snow continuously from Novem-
ı most favorable to the roots of fruit
the opening spring there had been little
The only cases reported were among
unfavorable locations.
ıan usual, and the first unfavorable re-
ıe from various parts of the State, that
everely affecting the strawberries, some
ore severely than others planted side by
ions.
rawberry Exhibition, so far as quantity
erned, was fully up to the standard of
ı quality it was decidedly inferior; owing
ther while the fruit was maturing, it was
avor which is the charm of this delicious

were shown, but none of marked promi-
beauty, and the Committee hardly feel
n opinion as to quality until tried under
s. The Sharpless, a comparatively new

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berry, was shown in larger quantity than any other variety. Owing to its peculiar and unattractive form, and the objection made to some extent that it does not ripen evenly, it may be too early to express a decided opinion as to its desirability for general cultivation, but the fact that it will doubtless be more generally cultivated in this vicinity in the immediate future than any other of the new varieties, will soon secure for it its true relative position.

CHERRIES.—Owing to wet weather at the time of ripening, this fruit was shown in limited quantity and was confined to varieties previously exhibited.

CURRANTS.—This fruit has been abundant and of good size and quality; the exhibits have been fully up to previous years in quantity and quality, but confined more exclusively to the two varieties, La Versaillaise and Dana's White Transparent; these are now very generally grown and may be considered the best representatives of the red and the white currant.

RASPBERRIES.—The exhibits of this fruit were not up to the average of previous years, either in quality or quantity. The Franconia was the leading variety shown. This fruit deserves more attention from our small fruit growers; it is of easy culture and meets with a ready sale at good prices, there being little or no competition from distant growers, as it does not bear transportation long distances.

BLACKBERRIES.—This fruit was unusually late the past season, none being shown at either of the exhibitions when prizes were offered, though some very good specimens were subsequently shown. Many who formerly grew this fruit to a greater or less extent have given it up on account of the uncertainty of a crop, from the canes being killed during the winter. This fact suggests the inquiry whether we cannot, by crossing the Wachusett, or some other hardy variety, with the Dorchester or Kittatinny, secure the hardiness of the former combined with the size and flavor of the latter. Such a result would be a valuable acquisition to our small fruits.

GOOSEBERRIES were shown in about the usual quantity; the prizes for natives were awarded to Smith's Seedling and Downing's Seedling. Of foreign varieties, B. G. Smith showed some fine specimens.

PLUMS.—The continued increase in the number of varieties and quantity of this fruit, shows that more attention is being given to

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l results. Many have been deterred
ount of the frequent loss of the trees
ıore frequent loss of the fruit by the
combatting these enemies are becom-
nerally practised, we may reasonably
rable fruit.

ommittee, the past season, offered
ıards, and as a result received invita-
lifferent loca ities, and will give you
heir examinations. The Fruit Com-
heir report by saying that, while but
: been exhibitors, the quantity shown
ess of that in previous years. One
› going more extensively into peach
tting healthy young trees. It is the
to find a nursery of young trees one
more or less are not affected with the
a more careful selection of seed and
ds with which to inoculate the stocks.
n has been the most unfavorable for
ırs. At the Annual Exhibition there
pes shown in competition for the six-
vere so severely injured by mildew
hardy kinds — among them the Con-
ıes before maturing. Of the three
Exhibition, but two were considered
were Moore's Early and the Cottage.
f October, first prizes were taken by
ella, Moore's Early, and Francis B.
. E. Grant showed a superior dish of

in about the usual quantity; there
an have been recently exhibited, but
expense of color. H. L. Higginson
ıit, and there were also well ripened
ıer. A. W. Nickerson showed the
been well colored they would have
l for several years.

re than an average crop of this fruit
hibits, taken as a whole, have been

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above the average; but the Annual Exhibition being held at an earlier date than for several years, and the season being later than usual, the show of the later and larger varieties was far below the average. The October and November exhibitions were among the best we have ever had.

APPLES.—This being the off year for this fruit, it was not expected the exhibits would compare favorably with those of last year, which was one of great abundance; but it is gratifying to be able to report the amount shown as considerably in excess of that exhibited in previous odd years. The great difference in the quantity of this fruit, with such unfailing regularity, upon the odd and even years, would suggest the inquiry whether by removing the blossoms from young trees on the even year, and selecting scions and buds from trees whose habit is to produce their fruit on the odd year, a greater equality cannot be secured.

ORANGES, ETC.—On the 9th of April we had a display of fruits, mostly of the genus Citrus, sent by the Southern California Horticultural Society, at the suggestion of Lucius G. Pratt, one of our members, when on a visit to California. They included oranges of several varieties, lemons, limes, shaddocks, and raisins, the last made from Muscat of Alexandria grapes, grown without irrigation, and of extra fine quality. The oranges, etc., though not as fresh as if they had not been exhibited in California, were of good appearance and fair quality, and the whole exhibit was of much interest. We have had no such display since April 11, 1840, when Charles W. Dabney, United States Consul at Fayal, an Honorary Member of the Society, sent from his own garden, where only in the islands some of them could be found, twelve varieties of citrons, oranges, lemons, and limes. A First Class Certificate of Merit was awarded by the Committee to Warren Kimball, of National City, Cal., for a Collection of Oranges, Prunes, and Raisins, and the same to R. G. Clark, of San Diego, for Raisins.

At the Annual Exhibition, D. S. Marvin, of Watertown, N. Y., entered his seedling grape, the Centennial, for the Prospective Prize for grapes. Of those previously entered for this prize, the Hayes was the only one to which the attention of the Committee was called.

Of the $950 placed at the disposal of the Committee for prizes and gratuities, they have awarded $749, leaving an unexpended balance of $201. The Committee felt bound to keep within their appropriation, and in offering their prizes adopted substantially

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der the same appropriation, and the
ge unexpended balance is found in the
of prizes awarded for grapes and apples.
' the season, the Committee voted, in
ble Committee, to postpone the award
nning with the exhibition of July 23,
' before the Annual Exhibition. This
provement in the exhibitions.
ety has kindly given the Committee the
furnishing descriptions of new fruits,
s report.
adly disappointed that, at the Annual
ples, and Pears, to a considerable ex-
unfavorable conditions; especially as
connection with that of the American
xhibits embraced the fruits from widely
ntry, including those from California,
ave been gratifying to our own exhib-
n to the large number of visitors from
ur fruit gardens and orchards produce

usual disappointment has attended the
his vicinity the past season should not
a fruit culture. These unfavorable cli-
ional and less liable to occur than dis-
other pursuit. Remembering that our
ortant article in domestic economy and
bles through the entire year, we may
enlarged and more systematic methods
ans for shipping our fruits to foreign
nstantly increasing, and a location the
ade, fruit growing will become one of
the State.

fully submitted,

E. W. Wood,
Benj. G. Smith,
Warren Fenno,
C. F. Curtis,
P. B. Hovey,
Jacob W. Manning,

Fruit Committee.

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NOTES ON NEW FRUITS.

By Robert Manning, Secretary.

Apple. *Highland Beauty.*—A seedling from the Lady apple, raised by E. P. Roe, of Cornwall-on-the-Hudson, N. Y., and exhibited by Hon. Marshall P. Wilder, February 5. Small, flattened, somewhat irregular and angular, but hardly ribbed; one side higher than the other. Skin clear, smooth yellow, thinly dotted with irregular russet specks; toward the sun brilliant carmine, dotted with obscure fawn-colored dots, the yellow ground showing distinct and well defined where overlaid by a leaf. Skin, thin; flesh, white, tender, not very juicy, very mild sub-acid; quality, "good," but probably the specimens were a little too ripe to show its best. In size it surpasses its parent, but not in quality.

Pears. *Earle's Bergamot.*—A seedling raised by the late Hon. John Milton Earle, of Worcester, Mass.; exhibited by Edward W. Lincoln, at the Annual Exhibition, September 13–16. Medium size, globular obtuse pyriform. Skin, thick; color, dull green,—sometimes yellow,—with a dull brownish red cheek, and patches of bronzy russet in the sun; in the shade, thinly sprinkled with russet dots of varying size. Flesh, greenish white, very melting and juicy, with a rich and pleasant flavor. "Very good."

Clapp's Seedling, No. 107.—From Hon. Marshall P. Wilder, October 22. Large, oblong pyriform, somewhat irregular and variable. Color, pale yellow; general appearance not unlike that of the Bartlett. Flesh, very fine grained and juicy, acidulous, not high flavored. It has a fragrance resembling that of the Lawrence.

Grape. *Duchess.*—Grown by A. J. Caywood, Poughkeepsie, N. Y.; presented by Hon. Marshall P. Wilder. The bunches shown were small, and pretty compact; berry of small or medium size, round; color, pale green, in specimens exposed to the sun inclining to amber, with a decided bloom. Texture "meaty" or sometimes with a little pulp, juicy, and sweet throughout the pulp, in the last point showing a decided step in advance. The skin is thick, and it would probably keep and carry well.

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TIES AWARDED FOR FRUITS.

EBRUARY 12.

lines Pears, ...	$1 00

MARCH 17.

arren Fenno, Josephine de Malines,	3 00
chesse de Bordeaux, . . .	2 00
W. T. Hall, Northern Spy, . .	3 00
thern Spy, ...	2 00
, ...	1 00
s, ...	1 00
. . . . .	1 00
. . . . .	1 00
and Pears, ...	1 00
" "	1 00

JUNE 11.

. . . . .	3 00

JUNE 18.

. . . . .	1 00

JUNE 25.

trawberries, ...	1 00

TRAWBERRY SHOW.

JUNE 28.

of any variety, J. F. C. Hyde,	
te, ...	$25 00
William Doran & Son, . . .	3 00
. . . . .	2 00
oore & Co., ...	3 00
Co., ...	3 00

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President Lincoln, J. B. Moore & Co.,	$3 00
Sharpless, Warren Heustis,	3 00
Second, J. F. C. Hyde,	2 00
Triomphe de Gand, the second prize to Charles Garfield,	2 00
Two quarts Brighton Pine, Warren Fenno,	2 00
Caroline, C. E. Grant,	2 00
Charles Downing, Warren Heustis,	2 00
Second, Stanley Seaverns,	1 00
Cumberland Triumph, J. B. Moore & Co,	2 00
Second, Horace Eaton,	1 00
Cutter's Seedling, E. W. Wood,	2 00
Duchess, Joseph D. Fitts, Providence, R. I.,	2 00
Hervey Davis, the second prize to Charles Garfield,	1 00
Jucunda, C. E. Grant,	2 00
Miner's Great Prolific, J. B. Moore & Co.,	2 00
Second, Aaron D. Capen,	1 00
Pioneer, Marshall P. Wilder,	2 00
President Wilder, Marshall P. Wilder,	2 00
Sharpless, L. W. Weston,	2 00
Second, J. F. C. Hyde,	1 00
Any other variety, Joseph D. Fitts, Champion,	2 00
Collection, not less than six varieties, one quart each, Hovey & Co.,	4 00
Two new named varieties, not previously exhibited, G. H. & J. H. Hale, South Glastonbury, Conn.,	3 00
Second, Hovey & Co.,	2 00
Fifty berries, any variety, Warren Heustis, Sharpless,	2 00
CHERRIES. — Two quarts of any variety, Isaac P. Langworthy,	2 00
Second, C. E. Grant,	1 00

Gratuities: —

J. B. Moore & Co., Collection of Strawberries,	2 00
C. E. Grant, " " "	2 00

JULY 2.

CHERRIES. — Two quarts Black Eagle, C. E. Grant,	2 00
Black Tartarian, C. E. Grant,	2 00
Coe's Transparent, Thomas S. Lockwood,	2 00
Any other variety, C. E. Grant, Black Heart,	2 00
Second, C. E. Grant, Elton,	1 00
STRAWBERRIES. — Two quarts, any late variety, Warren Heustis,	2 00
Second, Horace Eaton,	1 00

Gratuities: —

M. W. Chadbourne, Collection of Strawberries,	2 00
C. E. Grant, " " "	1 00
Warren Fenno, " " "	1 00
B. G. Smith, " " " and Cherries,	1 00

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., ...	$1 00
. . . . .	3 00
JULY 9.	
ıith, Dana's Transparent, . .	2 00
d Strawberries, ...	1 00
f Cherries, ...	2 00
"	1 00
ULY 16.	
ariety, B. G. Smith, Franconia,	2 00
, ...	1 00
ransparent, Mrs. E. M. Gill, .	2 00
. . . . .	1 00
. . . . .	2 00
, ...	1 00
. . . . .	2 00
. . . . .	2 00
F. Curtis, Hyde's Seedling, .	2 00
s Late, ...	1 00
rries, Currants, and Raspberries,	1 00
. . . . .	1 00
ULY 23.	
ars, ...	1 00
. . . . .	1 00
. . . . .	1 00
. . . . .	1 00
. . . . .	1 00
. . . . .	2 00
l Raspberries, ...	2 00
. . . . .	1 00
. . . . .	1 00
. . . . .	1 00
ınd Currants, ...	2 00
ité Pears, ...	1 00
t Pears, ...	1 00
. . . . .	1 00
ULY 30.	
e, B. G. Smith, Smith's Seedling,	2 00
ing's Seedling, ...	1 00
Heustis, ...	2 00
. . . . .	1 00

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Gratuities: —

Charles Garfield, Raspberries, Gooseberries, and Currants,	$1 00
George Craft, Gooseberries,	1 00
William E. Coffin, Peaches,	1 00
F. J. Dutcher, Apricots,	1 00
Francis B. Hayes, Black Hamburg Grapes,	2 00
R. P. Walsh, Figs,	1 00
Edwin Fewkes, Pineapple,	2 00

AUGUST 6.

PEARS. — Any variety, Alexander Dickinson, Beurre Giffard,	2 00
Second, Warren Fenno, " "	1 00
GOOSEBERRIES. — Two quarts Foreign, B. G. Smith, Whitesmith,	2 00
Second, B. G. Smith, Bang-Up,	1 00

Gratuities: —

Charles Garfield, Currants, Raspberries, and Gooseberries,	1 00
Warren Fenno, Gooseberries,	1 00
Horace Eaton, " and Peaches,	1 00
A. S. McIntosh, Dorchester Blackberries,	1 00
James Nugent, " "	1 00
Miss Sarah M. Vose, " "	1 00
T. Putnam Symonds, Alexander Peaches,	1 00
C. E. Grant, Peaches,	1 00
Francis B. Hayes, Black Hamburg Grapes,	2 00

AUGUST 13.

PEARS. — Beurre Giffard, Mrs. Mary Langmaid,	2 00
Second, W. S. Janvrin,	1 00
APPLES. — Early Harvest, Horace Eaton,	2 00
Second, Warren Fenno,	1 00
Red Astrachan, Horace Eaton,	2 00
Second, J. T. Foster,	1 00
Large Yellow Bough, Warren Heustis,	2 00
Second, Warren Fenno,	1 00
Williams, Warren Heustis,	2 00
Second, B. G. Smith,	1 00

Gratuities: —

Charles Garfield, Blackberries,	1 00
James Nugent, "	1 00
A. S. McIntosh, "	1 00
A. M. Davenport, Alexander Peaches,	1 00
C. E. Grant, Hale's Early and Amsden Peaches,	1 00
Samuel Hartwell, Early Beatrice Peaches,	1 00

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AUGUST 20.

C. Park,	$2 00
	1 00
ett, Brandywine,	2 00
me de Quimper,	1 00
,	2 00
	1 00
	1 00
	1 00
	1 00
l Apples,	1 00
	1 00
	1 00
s,	1 00

AUGUST 27.

gmaid,	2 00
,	1 00
ird,	2 00
,	1 00
	2 00
	1 00
	2 00
	1 00
alsh, Washington,	2 00
,	1 00
Walsh, Dr. Hogg,	2 00
rly Rivers,	1 00
nd Apricots,	1 00
	1 00

TEMBER 3.

th, Williams,	2 00
enstein,	1 00
inson,	2 00
	1 00
o, Brandywine,	2 00
e Boussock,	1 00
four varieties, Mrs. H. V. Draper,	3 00
	2 00
per, Washington,	2 00
haw,	1 00

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Gratuities: —

A. S. McIntosh, Collection of Pears, ... $1 00
A. M. Davenport, Hale's Early Peaches, ... 1 00
M. W. Chadbourne, Peaches and Pears, ... 1 00

SEPTEMBER 10.

APPLES. — Foundling, the second prize to Warren Fenno,
Gravenstein, the second prize to Warren Fenno, ... 1 00
Any other variety, the second prize to Warren Fenno, for Maiden's Blush, ... 1 00
PEARS. — Andrews, Mrs. Mary Langmaid, ... 1 00
Second, T. M. Davis, ... 2 00
Doyenne Boussock, Charles Bird, ... 1 00
Second, Warren Fenno, ... 2 00
Any other variety, M. W. Chadbourne, Souvenir du Congrès, ... 1 00
Second, Warren Fenno, ... 2 00
PEACHES. — Any variety, A. S. McIntosh, Crawford's Early, ... 1 00
Second, J. B. Moore & Co., ... 2 00

Gratuities: —

F. J. Dutcher, Collection of Plums, ... 1 00
Horace Partridge, Bradshaw Plums, ... 1 00

ANNUAL EXHIBITION.

SEPTEMBER 13, 14, 15, AND 16.

Special Prizes.

Twelve Bartlett Pears, Mrs. Mary Langmaid, ... 5 00
Twelve Gravenstein Apples, C. C. Shaw, ... 5 00
Twelve Peaches, of any variety, F. Bayer, Crawford's Early, ... 5 00
Twelve Bunches of Native Grapes, J. B. Moore & Co., Moore's Early, 5 00

Regular Prizes.

APPLES. — Baldwin, J. T. Foster, ... 2 00
Second, C. C. Shaw, ... 1 00
Danvers Winter Sweet, C. C. Shaw, ... 2 00
Second, J. T. Foster, ... 1 00
Dutch Codlin, B. F. Hunt, Jr., ... 2 00
Second, B. G. Smith, ... 1 00
Foundling, Warren Fenno, ... 2 00
Garden Royal, C. C. Shaw, ... 2 00
Golden Russet, " " 2 00
Second, Warren Fenno, ... 1 00
Gravenstein, William T. Hall, ... 2 00
Second, C. C. Shaw, ... 1 00

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hadbourne,	$2 00
	1 00
ey & Co.,	2 00
	1 00
o Warren Fenno,	1 00
	2 00
	2 00
	2 00
	1 00
	2 00
	2 00
	1 00
	2 00
	1 00
cIntosh,	2 00
	1 00
f,	2 00
	1 00
	2 00
	1 00
Park,	2 00
	1 00
hadbourne,	2 00
	1 00
	2 00
	1 00
, Dartmouth,	2 00
inson,	2 00
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o,	2 00
	1 00

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Duchesse d'Angouleme, Mrs. Mary Langmaid,	$2 00
Second, Warren Fenno,	1 00
Goo ale, C. E. Grant,	2 00
Second, Warren Fenno,	1 00
Howell, John Cummings,	2 00
Second, John C. Park,	1 00
Lawrence, Horace Partridge,	2 00
Second, William T. Hall,	1 00
Louise Bonne of Jersey, John McClure,	2 00
Second, Mrs. Mary Langmaid,	1 00
Marie Louise, John L. D'Wolf,	2 00
Second, S. G. Damon,	1 00
Merriam, A. S. McIntosh,	2 00
Second, William A. Crafts,	1 00
Onondaga or Swan's Orange, Horace Eaton,	2 00
Second, Warren Fenno,	1 00
Paradis d'Automne, Marshall P. Wilder,	2 00
Second, John L. Bird,	1 00
Seckel, C. E. Grant,	2 00
Second, Alexander Dickinson,	1 00
Sheldon, Mrs. Mary T. Goddard,	2 00
Second, Mrs. Mary Langmaid,	1 00
Souvenir du Congrès, Horace Eaton,	2 00
Second, Warren Fenno,	1 00
St. Michael Archangel, W. C. Eustis,	2 00
Second, Marshall P. Wilder,	1 00
Urbaniste, Horace Partridge,	2 00
Second, E. W. Wood,	1 00
Vicar of Winkfield, the second prize to W. C. Eustis,	1 00
Winter Nelis, John L. Bird,	2 00
Second, John C. Park,	1 00
Any other variety, Marshall P. Wilder, Clapp's Favorite,	2 00
Second, Moses Darling, Jr., Kingsessing,	1 00
PEACHES. — Four varieties, the third prize to Alexander Dickinson,	4 00
Fourth, Samuel Hartwell,	3 00
Any one variety, A. S. McIntosh,	3 00
Second, J. B. Moore & Co.,	2 00
Third, Samuel Hartwell,	1 00
Orchard House Culture, Richard Walsh,	4 00
Second, Richard Walsh,	3 00
NECTARINES. — Any variety, Warren Fenno,	2 00
PLUMS. — Any variety, Mrs. H. V. Draper,	2 00
Second, B. G. Smith,	1 00
NATIVE GRAPES. — Delaware, the second prize to J. B. Moore & Co.,	1 00
Moore's Early, J. B. Moore & Co.,	2 00
Any other variety, J. W. Talbot, Cottage,	2 00

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s, two bunches each, H. L. Hig-	
. . . . .	$8 00
, A. W. Nickerson, . . .	4 00
ıe, H. L. Higginson, . . .	4 00
. . . . .	3 00
. . . . .	2 00
ɔe, J. L. Gardner, . . .	4 00
. . . . .	3 00
. . . . .	3 00
. . . . .	1 00
New Pears, ...	2 00
's, ...	3 00
. . . . .	3 00
. . . . .	2 00
. . . . .	2 00
. . . . .	2 00
. . . . .	2 00
. . . . .	1 00
. . . . .	1 00
nd Peaches, ...	3 00
. . . . .	1 00
. . . . .	2 00

'EMBER 24.

. . . . .	1 00
ɛs, ...	1 00
aches, ...	3 00
. . . . .	1 00
apes, ...	3 00
'	1 00

TOBER 1.

tridge, ...	2 00
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ı, ...	2 00
. . . . .	1 00
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no, ...	2 00
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Clure, ...	2 00
. . . . .	1 00
der, ...	2 00

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Louise Bonne of Jersey, John McClure,	$2 00
Second, T. M. Davis,	1 00
Sheldon, Mrs. H. P. Kendrick,	2 00
Second, John McClure,	1 00
Urbaniste, Horace Partridge,	2 00
Second, A. S. McIntosh,	1 00
Any other variety, S. & C. Cummings, Seckel,	2 00
Second, Warren Fenno, Beurre Hardy,	1 00
Apples. — Gravenstein, William T. Hall,	2 00
Second, Warren Fenno,	1 00
Porter, M. W. Chadbourne,	2 00
Second, A. S. McIntosh,	1 00
Any other variety, Warren Fenno, Washington Strawberry,	2 00
Second, Moses Darling, Jr., Maiden's Blush,	1 00
Quinces. — Any variety, B. G. Smith,	2 00
Second, Horace Eaton,	1 00
Native Grapes. — Six bunches of Concord, William Doran & Son,	2 00
Second, Charles Garfield,	1 00
Delaware, S. G. Damon,	2 00
Second, Horace Eaton,	1 00
Diana, the second prize to S. G. Damon,	1 00
Isabella, J. W. Wellington,	2 00
Massasoit, the second prize to Joseph S. Chase,	1 00
Moore's Early, J. B. Moore & Co.,	2 00
Second, Charles Garfield,	1 00
Any other variety, J. B. Moore & Co., Francis B. Hayes,	2 00
Second, C. E. Grant, Catawba,	1 00
Foreign Grapes. — Two bunches, any variety, E. W. Wood, Black Hamburg,	3 00
Second, B. G. Smith, Muscat Hamburg,	2 00

Gratuities: —

C. E. Grant, Collection of Pears,	3 00
William T. Hall, " " "	2 00
C. N. Brackett, " " "	2 00
Horace Partridge, " " "	1 00
Warren Fenno, " " "	1 00
Jesse Haley, " " "	1 00
B. F. Hunt, Jr., " " " and Apples,	1 00
Aaron D. Capen, Pears,	1 00
S. G. Damon, "	1 00
B. G. Smith, "	1 00
M. W. Chadbourne "	1 00
Mrs. E. M. Gill, "	1 00
T. M. Davis, "	1 00
Charles Bird, "	1 00
E. G. Tutein, "	1 00

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. . . . .	$1 00
tpples, ...	2 00
ears, ...	2 00
. . . . .	1 00
. . . . .	1 00
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hes, ...	1 00

October 8.

. . . . .	1 00
Pears, ...	1 00
arines, ...	2 00
. . . . .	1 00
es, ...	1 00
. . . . .	1 00

October 15.

. . . . .	1 00
. . . . .	2 00
Peaches, ...	2 00
. . . . .	1 00

October 22.

. . . . .	1 00
inces, ...	1 00
s, ...	1 00

October 29.

. . . . .	1 00
. . . . .	1 00
. . . . .	1 00

November 9.

n Fenno, ...	2 00
. . . . .	1 00
Capen, ...	2 00
. . . . .	1 00
, ...	2 00
. . . . .	1 00

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Dana's Hovey, Hovey & Co.,	$2 00
Second, A. S. McIntosh,	1 00
Doyenne du Comice, Warren Fenno,	2 00
Second, George S. Harwood,	1 00
Glout Morceau, A. S. McIntosh,	2 00
Second, Samuel McIntosh,	1 00
Josephine de Malines, Warren Fenno,	2 00
Second, John L. Bird,	1 00
Lawrence, W. S. Janvrin,	2 00
Second, Jesse Haley,	1 00
Vicar of Winkfield, W. P. Walker,	2 00
Second, A. S. McIntosh,	1 00
Winter Nelis, T. M. Davis,	2 00
Second, Jacob Eaton,	1 00
Any other variety, Warren Fenno,	2 00
Second, M. Darling, Jr.,	1 00

French Premiums.

Apples. — Baldwin, J. T. Foster,	2 00
Second, M. W. Chadbourne,	1 00
Danvers Winter Sweet, J. T. Foster,	2 00
Second, C. C. Shaw,	1 00
Hubbardston Nonsuch, M. W. Chadbourne.	2 00
Second, C. C. Shaw,	1 00
King of Tompkins County, Hovey & Co.,	2 00
Second, C. C Shaw,	1 00
Lady's Sweet, Warren Fenno,	2 00
Northern Spy, C. C. Shaw,	2 00
Second, Warren Fenno,	1 00
Rhode Island Greening, the second prize to A. S. McIntosh,	1 00
Roxbury Russet, M. W. Chadbourne,	2 00
Second, Mrs. M. T. Goddard,	1 00
Talman's Sweet, J. T. Foster,	2 00
Second, M. Darling, Jr.,	1 00

Gratuities: —

C. E. Grant, Collection of Pears,	3 00
Marshall P. Wilder, " "	3 00
A. S. McIntosh, Pears,	2 00
B. G. Smith, "	1 00
T. M. Davis, "	1 00
Lemuel Clapp, "	1 00
M. W. Chadbourne, "	1 00
George S. Harwood, "	1 00
Horace Partridge, " and Grapes,	2 00
Warren Fenno, " " Apples,	1 00
C. C. Shaw, Apples,	1 00
B. G. Smith, Lady Downes Grapes,	1 00

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ERTIFICATES OF MERIT.

ational City, Cal., Collection of Oranges,

ego, Cal., Raisins.
ane 28, E. S. Durand, Irvington, N. J., Jer-

Gregg (Black Cap) Raspberries.
Stanwick Nectarines.

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REPORT

OF THE

COMMITTEE ON VEGETABLES.

FOR THE YEAR 1881.

By CHARLES N. BRACKETT, Chairman.

The season of 1881 has proved one of a peculiar character, and will long be remembered by cultivators of the soil on account of its many changes and surprises.

The spring was remarkably cold, wet, and backward, and vegetation came forward with a slow, and somewhat uncertain pace. Many of the more tender varieties of vegetable and other seeds, owing to unpropitious weather at the time of planting, failed to germinate, and necessitated replanting, thereby causing delay, loss, and disappointment to the cultivator. In many localities the crops of squashes, melons, etc., were total failures. In other sections acres of growing crops were severely damaged, and in some instances totally ruined, by heavy showers accompanied by wind and hail, which also did more or less injury to the fruit crop.

The effects of weather, so unfavorable to vegetation, could scarcely fail to be noticed in our weekly exhibitions, which have during the past year, notwithstanding the persevering efforts of contributors, been inferior to those of the two previous seasons.

From the commencement of the year to the Azalea Exhibition, March 17, gratuities were awarded for vegetables grown under glass, to Josiah Crosby, Henry R. Comley, John B. Moore, Cephas H. Brackett, and W. H. Richardson, who were the only contributors of forced vegetables for a period of over three months. To those exhibitors who still persevere in their efforts to keep alive this interesting feature of our exhibitions during the winter and early spring months, the thanks of the Society are due, while from those who appear from some cause to have lost their interest, or have become discouraged, and have dropped away, we must hope for better things in the future.

The weekly shows were affected in a marked manner by the lateness of the season. Tomatoes, which are usually exhibited in

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of July, when prizes are first offered,
until the middle of August, and no
seen before August 13. Greenflesh
e Schedule on the 6th of August, but
)tember 3. Sweet corn, beans, etc.,
)ehind the usual time.
'as found that few if any of the prizes
nless the dates in the Schedule were
)re nearly to the requirements of the
'ruit and Vegetable Committees, after
e the dates of the Schedule in their
king them one week later for the
nmencing with July 23, and so on, up
Contributors were accordingly notified.
ad the desired effect, and a decided
thereafter in all the exhibitions.
igh somewhat later than usual have
)ld and standard kinds, some of the
ent introduction were to be seen on
he Marvel, shown by C. M. Atkinson,
ention. Mr. Atkinson says of this
30th of April; it is a sturdy grower,
autiful color when boiled, and of most
ssed that it is the very best pea for
ne specimens of Omega were shown
Cartwright. At the Rose Show the
is were awarded to Samuel G. Stone,
tish Invicta.
rd, gardener to Harvey D. Parker,
Tomato, which originated with him,
rite. The specimens were unusually
l attracted particular notice on this
the best variety of all for forcing,
'or the season of the year at which
ecidedly the best specimens we have

some very fine specimens of Living-
by George H. Rich, who took the
varieties; and a new variety, the
Sons, took the first prize for any
l in the Schedule. The Mayflower

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is a large, handsome, solid variety, somewhat after the style of the Paragon, but said to be earlier than that variety. The shows of tomatoes, at the weekly exhibitions and at the annual, were remarkably full and fine. The Acme has been the leading variety, while the Paragon, Emery, and other favorites have been well represented.

The improvement which the past few years have wrought in this popular vegetable has been both striking and gratifying, and by contrasting the hollow and wrinkled specimens which we used to see offered for prizes ten or twelve years ago, with the perfect and very beautiful specimens to be seen this season at our exhibitions, its extent will in some degree be appreciated.

These remarks apply equally well to other of our garden vegetables, especially to the potato, and the various root crops, where equal progress has been made.

The display at the Annual Exhibition surpassed expectation, it being thought the unpropitious season would tell severely upon the various crops, and, as a natural consequence, affect unfavorably the Annual Show. In a partial degree this was the result, but not to the extent anticipated.

Notwithstanding the unfavorable season the display of Potatoes at the Annual Exhibition was superior to that of the previous year, the varieties being more select, and the specimens better grown. The main crop however was seriously injured, during the month of August, by blight, which from all accounts appears to have been general throughout the country. The loss accruing from this cause, must in the aggregate, have been very great. Early planted varieties, however, escaped the blight, which would seem to be a sufficient argument in favor of early planting.

We are indebted to E. S. Brownell, of Essex Junction, Vermont, for a collection of new seedling potatoes, exhibited by him at the Annual Exhibition, under numbers running from 50 to 55 inclusive, three of which have been named by the originator, and will be introduced to the public the coming season. We append the following description of them, as furnished by Mr. Brownell:

Brownell's Early Telephone (No. 52), I consider one of the best potatoes that I have ever raised. The vines are light green, stocky, of medium height, somewhat bushy. The tubers are white, smooth, of good size, and grow compactly in the hill, with few small ones, and cook well. Quality excellent, and it is very productive.

Brownell's Best (No. 50). Stalks medium, color dark green;

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ttened; eyes nearly even with the sur-
ompactly in the hill, and are of good
productive. It cooks evenly through,
ıd in quality not excelled.

ıver (No. 54) is a variety of superior
ive. The vines are short, thick and
een color. The tubers are oblong in
nd cook very dry and floury. It is a
r.

. Brownell for the above-named varie-
Fair, the past season. He is certainly
his efforts and endeavors to originate
of this valuable esculent. It is only
ivation that the true character of a new
ained; and when it is well established
ıtor, it requires nearly as many years
of it, so that establishing the reputa-
l, a work of many years. Mr Brownell
other seedlings, which, if they shall
to expectations already entertained of
d, and in due time introduced to the
warded Mr. Brownell, for six varieties
ıe Society's Silver Medal.

led to some of the most noticeable
during the past year, we close our
of awards.

for prizes and gratuities was	$500 00
ıb Fund, ...	30 00
	$530 00
and gratuities, . . .	476 00
ılance of	$54 00

y submitted.

N. BRACKETT,
SIAH CROSBY,
ALTER RUSSELL,
EORGE W. PIERCE,
MUEL HARTWELL,
E. GRANT,
. W. CHADBOURNE,

Committee on Vegetables.

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PRIZES AND GRATUITIES AWARDED FOR VEGETABLES.

JANUARY 29.

Gratuity : —

Josiah Crosby, Celery, ... $1 00

FEBRUARY 12.

Gratuities : —

Henry R. Comley, Radishes, ... 1 00
John B. Moore, Mushrooms, ... 1 00

FEBRUARY 19.

Gratuity : —

C. H. Brackett, Tomatoes and Rhubarb, ... 2 00

FEBRUARY 26.

Gratuity : —

W. H. Richardson, Pierson's Long Green Cucumber, . . . 1 00

AZALEA AND ROSE EXHIBITION.

MARCH 17.

RADISHES. — Four bunches Turnip Rooted, Josiah Crosby, . . $3 00
CUCUMBERS. — Pair of White Spine, C. H. Brackett, . . . 3 00
LETTUCE. — Four heads of Tennisball, J. Crosby, ... 3 00
Second, H. R. Comley, ... 2 00

Gratuity : —

C. H. Brackett, Rhubarb and Tomatoes, ... 2 00

MARCH 26.

Gratuity : —

Josiah Crosby, Lettuce and Radishes, ... 1 00

APRIL 9.

Gratuities : —

Henry R. Comley, Lettuce, ... 1 00
E. W. Wood, " 1 00

APRIL 16.

Gratuities : —

Henry R. Comley, Lettuce, ... 1 00
Josiah Crosby, " 1 00
George W. Pierce, " 1 00
Charles Garfield, " 1 00

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MAY 7.

. . . . .	$2 00
. . . . .	1 00
. . . . .	1 00

MAY 14.

. . . . .	1 00
. . . . .	1 00
Cucumber, ...	1 00
w hybrid), ...	1 00
. . . . .	1 00
brid, very fine), ...	1 00

MAY 21.

rite Tomatoes, ...	1 00

JUNE 4.

t, J. Crosby, ...	2 00
ted, J. Crosby, ...	2 00
B. Moore, ...	2 00
. . . . .	1 00
ett, ...	2 00
. . . . .	1 00
Crosby, Tennisball, . . .	2 00
on Curled, ...	1 00
C. Hovey, Monarch, . . .	2 00
ictoria, ...	1 00
. . . . .	1 00
. . . . .	1 00
. . . . .	1 00

JUNE 11.

. . . . .	2 00

JUNE 25.

. . . . .	1 00
. . . . .	1 00

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ROSE AND STRAWBERRY SHOW.

June 28.

Beets. — Turnip Rooted, Walter Russell,	$2 00
Second, J. Fillebrown,	1 00
Egyptian, J. Crosby,	2 00
Second, S. G. Stone,	1 00
Carrots. — Intermediate, J. Crosby,	2 00
Second, W. Russell,	1 00
Onions. — Twelve, J. Crosby,	2 00
Second, J. Fillebrown,	1 00
Cucumbers. — Pair of White Spine, J. Crosby,	2 00
Second, C. H. Brackett,	1 00
Cabbages. — Four, Walter Russell,	2 00
Second, Josiah Crosby,	1 00
Lettuce. — Four heads, George W. Pierce,	2 00
Second, Walter Russell,	1 00
Peas. — Peck, S. G. Stone, Kentish Invicta,	2 00
Second, Samuel Hartwell, " "	1 00

Gratuities :—

Samuel Hartwell, Challenge Peas,	1 00
M. W. Chadbourne, Peas,	1 00
C. E. Grant, "	1 00
C. H. Brackett, Cucumbers,	1 00
George W. Pierce, Lettuce,	1 00
J. Crosby, Collection,	1 00

July 2.

Peas. — Peck, S. G. Stone, Invicta,	2 00
Second, " " Laxton's Alpha,	1 00

July 9.

Gratuities :—

M. W. Chadbourne, Collection,	1 00
Samuel G. Stone, "	2 00
Josiah Crosby, Portugal Onions,	1 00

July 16.

Gratuities :—

Josiah Crosby, Summer Squashes,	2 00
M. W. Chadbourne, Beauty of Hebron Potatoes,	2 00
C. M. Atkinson, Marvel Peas,	1 00
James Cartwright, Omega Peas,	1 00
Samuel G. Stone, Collection of Beans,	1 00

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JULY 23.

. . . . .	$1 00
. . . . .	1 00
s, ...	1 00
. . . . .	3 00
. . . . .	2 00

JULY 30.

rosby, ...	3 00
muel G. Stone, Marblehead, . .	3 00
arragansett, ...	2 00
ead, ...	1 00
. . . . .	1 00
l Potatoes, ...	1 00
. . . . .	1 00
e and Blue Peter Peas, . . .	1 00

AUGUST 6.

ah Crosby, ...	2 00
siah Crosby, ...	2 00
. . . . .	1 00
. Chadbourne, ...	2 00
. . . . .	2 00
. . . . .	1 00
atoes, ...	1 00
l Potatoes, ...	1 00

AUGUST 13.

. . . . .	1 00
orn, ...	1 00
"	1 00
Tomatoes, ...	2 00
. . . . .	3 00
. . . . .	2 00

AUGUST 20.

. . . . .	2 00
. . . . .	2 00
. . . . .	1 00

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Charles Garfield, Tomatoes,	$1 00	1 00
C. N. Brackett, Acme Tomatoes,	1 00	1 00
Warren Heustis, " "	1 00	1 00

AUGUST 27.

POTATOES. — Peck of any variety, S. Hartwell, Beauty of Hebron,	2 00	2 00
Second, C. N. Brackett, Clark's No. 1,	1 00	1 00
BEANS. — Large Lima, C. E. Grant,	3 00	3 00
Second, B. G. Smith,	2 00	2 00
Gratuities: —		
George Hill, Greenflesh Melons,	2 00	2 00
Samuel Hartwell, Burr's Corn,	1 00	1 00
C. N. Brackett, two varieties Tomatoes,	1 00	1 00
Samuel G. Stone, Collection,	3 00	3 00
C. E. Grant, "	2 00	2 00
M. W. Chadbourne, "	2 00	2 00
Charles Garfield "	1 00	1 00

SEPTEMBER 3.

GREENFLESH MELONS. — Four specimens, George Hill,	3	3 00
Gratuities: —		
Josiah Crosby, Peppers and Corn,	2	2 00
C. N. Brackett, Beans and Tomatoes,	1	1 00
George Craft, Martynias,	1	1 00
C. E. Grant, Collection,	2	2 00
S. G. Stone, "	2	2 00
M. W. Chadbourne, "	1	1 00
Charles Garfield, "	1	1 00

SEPTEMBER 10.

Gratuities: —

C. N. Brackett, Emery Tomatoes,	1	1 00
Samuel Hartwell, Lima Beans,	1	1 00
C. E. Grant, Collection,	1	1 00
M. W. Chadbourne, "	1	1 00
S. G. Stone, "	1	1 00

ANNUAL EXHIBITION.

SEPTEMBER 13, 14, 15, AND 16.

Special Prizes.

CAULIFLOWERS. — Best four specimens, J. Cummings,	$5 00	5 00
CELERY. — Four specimens, Josiah Crosby,	5 00	5 00

Regular Prizes.

BEETS. — Twelve, J. Crosby,	3 00	3 00
Second, George F. Stone,	2 00	2 00
Third, Walter Russell,	1 00	1 00

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ge, W. W. Rawson,	$3 00
	2 00
	1 00
by,	3 00
	2 00
	1 00
. D'Wolf,	3 00
	2 00
	1 00
e peck each, C. N. Brackett,	4 00
	3 00
	2 00
	3 00
	2 00
	1 00
	3 00
d,	2 00
aster, Clark's No. 1,	3 00
ty of Hebron,	2 00
moth Pearl,	1 00
rieties, E. S. Brownell, the Society's	
. L. D'Wolf,	3 00
	2 00
	1 00
rs. M. T. Goddard,	3 00
low, J. Crosby,	3 00
	2 00
	1 00
	3 00
	2 00
	1 00
,	3 00
	2 00
	1 00
eorge Hill,	3 00
	2 00
	1 00
kinson,	3 00
kinson, Round Solid,	3 00
ck Spanish,	2 00
less,	1 00
M. T. Goddard,	3 00
	2 00
	1 00
	3 00
	2 00
	1 00

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Marblehead, John Cummings,	
Marrow, George Hill,	$3 00
Second, John Cummings,	3 00
Turban, John Cummings,	2 00
Second, Samuel Hartwell,	3 00
CABBAGES. — Three Drumhead, J. Cummings,	2 00
Second, J. B. Tilley,	3 00
Third, Samuel Hartwell,	2 00
Red, John Cummings,	1 00
Second, C. N. Brackett,	3 00
Third, M. T. Goddard,	2 00
Savoy, J. Cummings,	1 00
Second. Samuel Hartwell,	3 00
Third, W. D. Forbes,	2 00
CAULIFLOWERS. — Four, W. W. Rawson,	1 00
Second, Walter Russell,	3 00
Third, John Cummings,	2 00
CELERY. — Four roots, W. W. Rawson,	1 00
Second, Josiah Crosby,	3 00
ENDIVE. — Four heads, George W. Pierce,	2 00
HORSERADISH. — Six roots, W. W. Rawson,	2 00
Second, Walter Russell,	3 00
LIMA BEANS. — Two quarts, Samuel G. Stone,	2 00
Second, Benjamin G. Smith,	3 00
Third, C. E. Grant,	2 00
CORN. — Sweet, twelve ears, John Cummings,	1 00
Second, Robert Elder,	3 00
Third, Samuel Hartwell,	2 00
Yellow or Field, twenty-five ears, Mrs. M. T. Goddard,	1 00
Second, C. N. Brackett,	3 00
Third, Robert Elder,	2 00
EGG PLANT. — Four Round Purple, Walter Russell,	1 00
TOMATOES. — Three varieties, George H. Rich,	3 00
Second, C. N. Brackett,	4 00
Third, S. G. Stone,	3 00
Acme, Twelve specimens, John Cummings,	2 00
Second, George W. Pierce,	2 00
Boston Market, J. Cummings,	1 00
Second, Walter Russell,	2 00
Emery, J. Cummings,	1 00
Second, George W. Pierce,	2 00
Gen. Grant, John Cummings,	1 00
Second, C. E. Grant,	2 00
Any other variety, B. K. Bliss & Sons, Mayflower,	1 00
Second, John Cummings, Paragon,	2 00
MARTYNIAS. — Twenty-four, George W. Pierce,	1 00
Second, M. W. Chadbourne,	2 00

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PEPPERS. — Twenty-four, George F. Stone,	$3 00
Second, Josiah Crosby,	2 00
Third, Walter Russell,	1 00
CRANBERRIES. — Half-peck, O. M. Holmes,	2 00

Gratuities: —

I. P. Dickinson, Melons,	2 00
A. T. Brown, Egg Plants,	1 00
Henry R. Comley, Parsley,	1 00
John Cummings, Collection,	4 00
George W. Pierce, "	3 00
Walter Russell, "	3 00
Samuel Hartwell, "	2 00
C. E. Grant, "	2 00
L. W. Weston, "	1 00
W. D. Forbes, "	1 00
George Craft, "	1 00

SEPTEMBER 24.

Gratuities: —

Samuel G. Stone, Collection,	2 00
C. N. Brackett, "	1 00
C. E Grant, "	1 00

OCTOBER 1.

SALSIFY. — Twelve specimens, M. W. Chadbourne,	2 00
BRUSSELS SPROUTS. — Half-peck, Mrs. M. T. Goddard,	2 00
CABBAGES. — Three Drumhead, John Cummings,	2 00
Second, W. S. Janvrin,	1 00
Red, John Cummings,	2 00
Second, C. B. Lancaster,	1 00
Savoy, John Cummings,	2 00
CAULIFLOWERS. — Four, John Cummings,	2 00
CELERY. — Four roots, Josiah Crosby,	2 00

Gratuities: —

B. G. Smith, Lima Beans,	1 00
A. W. Nelson, Strawberry Tomatoes,	1 00
Samuel G. Stone, Collection,	3 00
C. E. Grant, "	2 00
Samuel Hartwell, "	1 00
C. N. Brackett, "	1 00

OCTOBER 8.

Gratuity: —

Samuel G. Stone, Collection,	2 00

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OCTOBER 15.

Gratuity : —

C. E. Grant, Collection, ... $2 00

OCTOBER 21.

Gratuity : —

Josiah Crosby, Celery, ... 2 00

NOVEMBER 5.

Gratuity : —

Josiah Crosby, Celery, ... 1 00

CHRYSANTHEMUM SHOW.

NOVEMBER 9.

CELERY. — Four roots, Josiah Crosby, ... $2 00
CAULIFLOWERS. — Four, John L. Gardner, ... 2 00

DECEMBER 3.

Gratuity : —

Josiah Crosby, Celery, ... 1 00

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REPORT

OF THE

Committee on Gardens,

FOR THE YEAR 1881.

By JOHN G. BARKER, CHAIRMAN.

Although the results of our efforts to awaken a more general interest in this department of the Society's work have not been altogether what we hoped for, the past season has shown a marked increase over the previous in the number of places to which the attention of the Committee has been called, and we trust the record of our doings, which we now present to you, will prove to be of sufficient interest to cause still greater activity on the part of all the members of the Society, and that each will do his best to facilitate the efforts of the Committee in obtaining any information that may be worthy of record, and may have a tendency to advance our cause. We call especial attention to the Hunnewell Triennial Premiums, and also to the Society's Prizes for the year to come, with the sincere hope that there may be an earnest competition for them all.

PINE HILL, THE RESIDENCE OF HON. FRANCIS B. HAYES.

Our first visit was on the 23d of June, to Lexington, upon invitation of our worthy President, to visit his extensive grounds. The day was all that could be desired, and in addition to the members of the Committee, we were honored with the presence of many of our distinguished horticulturists, and we noted with pleasure that of our worthy Ex-President, the Hon. Marshall P. Wilder, President of the American Pomological Society, whose kind and enthusiastic words proved to us that, while advancing in years, he is as young as ever in his zeal for the promotion of the

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cause of horticulture, which has been to him one of the dearest rest objects of his life.

We hardly need to mention that we were received in the most generous and hospitable manner, of which many have had personal experience, more than once repeated. After a delightful repast prepared for us at the mansion house, we were escorted to the principal object of our visit, the Rhododendron tent, a structure fifty feet square, arranged in an artistic manner, and planted with the hybrid varieties of the Rhododendron. The eight standards were very conspicuous, the varieties being Lady Eleanor Cathcart, Concessum, Joseph Whitworth, Jean Verschaffelt, Vandyck, The Queen, Mrs. Milner, and Fastuosum flore pleno. These fine plants were among the most ornamental on the grounds, as all must admit, and standing as they did conspicuously above the dwarf varieties, with their well formed heads of beautiful flowers, they were objects of great admiration, and indeed when not in flower the beautiful glossy foliage is very effective. In addition to the standards there were over one hundred varieties of dwarf plants, many of them quite new and flowering for the first time in this country, in all shades of color, from a rich deep scarlet to pure white. We also noticed fine specimen plants in tubs of the beautiful *Bougainvillea glabra*, which were laden with lovely pink bracts. It deserves a place as a decorative plant in any choice collection. There was a very fine specimen of *Dracæna Draco*, a highly ornamental plant which may be brought out from the greenhouse among the earliest of plants; also a fine plant of *Alsophila excelsa*, one of the most beautiful greenhouse tree ferns; and an Azalea Exquisita, a very large specimen plant, probably the largest in this country, and a mass of bloom. But space forbids enumerating all the wealth of plants, beautiful in flower or foliage, with which the tent was crowded.

The general improvements on the whole estate since the Committee last visited the grounds, when the Hunnewell Triennial Premium was awarded, are very marked. A large conservatory, forty by sixty-five feet, has been erected, in the centre of which are three large camellias from the collection of the Hon. Marshall P. Wilder; the varieties are *Alba flore pleno* and *Feastii*. A fine specimen plant of the showy *Allamanda Schottii* was very noticeable. Also the beautiful *Nymphæa cærulea*, *N. flava*, and *N. Devoniensis*, and *Aponogeton distachyon*, all of which can be grown in pots and tubs as well as in a tank, and are of very easy culture. It is

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impossible to make more than brief mention of the objects that attracted our notice; there was a large collection of choice Azaleas selected with much care, and many other species and varieties that [illegible] to make up a choice collection of plants. We were informed [illegible]t in future this conservatory will be used for the cultivation of [illegible]e summer flowering plants, and being situated very near the [illegible]nsion house, it will undoubtedly be an interesting feature of the [illegible]ate. The workmanship of the building is of the very best; in [illegible] arrangement there is no stage in the centre, it being filled with [illegible]ge plants; on the sides there is only low shelving, while at one [illegible]d is a raised platform (access being had at either end by steps) [illegible] which are placed settees, where the visitor can sit down and [illegible]k on the plants, the only way to see them properly. Connected [illegible]h the conservatory is the vinery, where the vines were already [illegible]bearing, and their excellent condition was good proof of skilful [illegible]tivation received. We also noticed, near by, a small span-roofed [illegible]se intended for growing roses, and numerous pits and frames, [illegible]which many of the Indian Azaleas are kept during winter, and [illegible]ich are always valuable adjuncts to a well ordered place.

[illegible]Our attention was also directed to the pit, forty feet square, [illegible]lt in the woods; the sides are of stone, with large double doors [illegible] one end, which in winter are closed up tight, access being had [illegible]ough one of the skylights in the roof. In this pit are kept the [illegible]brid Rhododendrons, Indian Azaleas, Hollies, and all half-hardy [illegible]nts. During the winter of 1880 the temperature was carefully [illegible]ed after, and was kept at an average of 38°; two thermometers [illegible]e hanging up, one at each end, showing that the temperature did [illegible]vary four degrees all through the season. Ventilation was given [illegible]y every mild day. This has proved a very gratifying success, [illegible] demonstrated the fact that it is not necessary to have extensive [illegible] green and hot houses in order to grow and keep plants for [illegible]mer decorative purposes.

[illegible] addition to what we have already noticed, we desire to [illegible]tion some of the evergreens which have been planted out over [illegible]years, and have proved perfectly hardy.

[illegible]bies alba glorio*sa*.

[illegible]bies *Engelmannii*.—Indigenous to the higher parts of the Rocky [illegible]ntains, and a very pretty species.

[illegible]s orientalis. —Already known as a fine lawn tree, but of [illegible]what slow growth.

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Abies macrophylla. — Mr. Hayes considers this one of the hardiest and best; it is very beautiful.

Abies pendula. — Certainly a very peculiar plant, but by no means handsome; it is perfectly hardy, and should have a place among evergreens.

Abies pyramidalis.

Abies Alcoquiana. — A splendid tree, and yet scarce.

Abies diffusa.

Picea Pichta. — A rather small species, with peculiar dark foliage; very hardy, and can be highly recommended for general cultivation.

Retinospora argentea. — A very distinct and desirable variety.

Retinospora filifera. — Also desirable; both this and the preceding were introduced from Japan.

Retinospora pisifera aurea, in a bed planted two years, produced a very pleasing effect. It is a beautiful plant, of compact habit, with branchlets of a bright golden color.

Among dwarf evergreens which attracted our attention more particularly were the three following varieties: *Abies nigra pumila*, *A. Hudsonia*, and *A. Gregoryana*.

Another evergreen of great merit, that has stood the test of several winters, is *Sciadopitys verticillata*, the Umbrella Pine of Japan, which bids fair to become one of the most popular ornamental evergreen trees.

Of deciduous trees, the curious *Aralia* (*Dimorphanthus*) *Mandschurica*, a perfectly hardy tree, with palm-like habit, is a remarkable novelty and will prove of great value in ornamental gardening.

Betula purpurea, the Purple Birch, is always very effective.

Magnolia hypoleuca is new.

Magnolia Alexandrina closely resembles *M. Soulangeana*.

Magnolia stellata (Hall's Japan Magnolia), Mr. Hayes informs us is the earliest and one of the best.

Pirus Malus floribunda.

Acer Negundo foliis aureo variegatis, the golden variegated Negundo.

Acer Negundo variegata. This is one of the most beautiful variegated trees, especially when so planted that evergreens form the background; Mr. Hayes's largest specimen is twelve feet high, and was spoken of by Mr. Parsons as one of the best he knew, and worth a journey from New York to see.

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Of the new Japan Maples the following varieties, which have been planted out three years and have proved thoroughly hardy, seem to be among the valuable plants for future ornamental purposes, although in many localities it is far from settled what varieties will prove hardy.

Acer polymorphum reticulatum.
" " *albo variegatum.*
" " *palmatifolium roseo pictis.*
" " *versicolor.*
" " *sanguineum.*
" " *roseo marginatum.*
" " *palmatifidum.*
" " *pinnatifidum atropurpureum.*
" " *palmatum.*
" " *sanguineum variegatum.*
" " *aureum.*
" " *atropurpureum.*
" " *polymorphum.*
" *Japonicum.*

Of over fifty varieties of Clematis we noted the following six as most striking.

Froebel.
Jackmanni (intense violet purple).
James Bateman.
Prince of Wales.
Sieboldii.
William Bull.

Of Hybrid Perpetual Roses, about sixteen hundred plants, in two hundred of the most select varieties are cultivated.

Of flowering shrubs, we noticed the justly popular *Hydrangea paniculata grandiflora* in the highest perfection, both as standards and bushes. *Exochorda grandiflora* was very fine; *Spiræa Thunbergii* very delicate, and one of the best of the genus; *Weigela Van Houttei*, is an excellent variety, and *Viburnum plicatum* is one of the very best of the genus, the habit being particularly fine; Hibiscus Variegated Althæa, is very striking and effective, holding the variegation excellently, and must prove very useful. *Bignonia grandiflora præcox* is a magnificent plant, producing a great abundance of large deep coppery crimson flowers; very valuable and thoroughly hardy.

Having made special mention of such trees, shrubs, and plants as seem most desirable, we would add that the general improvement

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of the entire estate is very noticeable. The avenue leading to the Pinetum has been planted on either side with choice evergreens, and in the grove, over two hundred of Van Houtte's seedling rhododendrons have been planted under the partial shade of the large trees. Returning by Maple Avenue we noticed that numerous beds had been cut out and planted with rhododendrons, and the choicest varieties of hardy shrubs, and it is only a matter of time when these beautiful avenues will be a very attractive feature of the place. The large masses of hardy rhododendrons near the entrance to the grounds were in fine order, as were also the hardy azaleas. The wide extent of lawn with a very commanding view of the pine woods from the piazza of the mansion house was exceedingly delightful. The neatly trimmed hedges which shut off the rear of the house from view, were in splendid condition. It was noticeable that there were but few beds of plants of the modern style, but here and there was a bed of Cannas, and then one of Geraniums and Coleus so placed as to give enchantment to a distant view. The fine sub-tropical bed at the front of the house deserves especial mention. It was composed of *Musas*, *Phormium tenax variegatum*, *P. Colensoi*, *P. atropurpureum*, *Ficus elastica*, *Grevillea robusta*, *Pandanus utilis*, *Agave Americana*, and *Yucca variegata*, the whole bed being carpeted with *Coleus* and *Achyranthes*, and edged with *Agave Americana variegata*. We also noticed in suitable places with good effect on the lawn, a fine pair of plants of *Fourcroya Lindeni;* also *Araucaria Cookii* and *A. excelsa*, *Musa ensete* and *Beaucarnea glauca*.

In selecting what we have for special notice, in a place so large, and where there is so much to attract attention, and all worthy of note, we trust that we have done no injustice to what remains unmentioned. We all admire the enthusiasm of our honored President, and we wish to record our thanks for what he has done for the advancement of the most beautiful of all arts, horticulture; and our earnest wish is that his life may long be spared to enjoy the fruits of his labors.

The Chairman also wishes to record his thanks to Mr. Comley, the accomplished and skilful gardener, to whom on a subsequent visit he was much indebted for the information obtained, and which has helped very much to make up this report.

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THOMAS C. THURLOW'S PEACH ORCHARD.

On the 27th of July the Committee visited the Peach Orchard of Thomas C. Thurlow, at West Newbury. The land selected for the orchard is the southern slope of a high hill and is not valued at over fifty dollars per acre; the space occupied being about three acres. The trees are eighteen feet apart each way and were planted in the spring of 1875, and at the time of planting a quart of wood ashes was worked in the ground around each tree. Mr. Thurlow thinks it essential that a vigorous growth should not be encouraged until the trees begin to bear. All the trimming that has ever been done was in the last of May or the first week in June, and consisted chiefly in cutting out dead wood. But a small quantity of fertilizing material has been used; half a ton of Pacific guano and a small quantity of the Darling fertilizer was applied this year, the whole not costing over fifty dollars. The cultivation has been done with the horse, and the ground has been hoed by hand but once.

The Committee were much pleased with the appearance of the trees; the growth and color of the wood, together with a moderate setting of fruit gave promise of a very fine crop, which we anticipated would give the most satisfactory results. At this time we could see but two trees that had any appearance of the yellows. But in a subsequent letter from Mr. Thurlow, under date of August 3d, we learned that the eight or ten trees of the early varieties were nearly a failure. The Alexander's Early ripened first, but nearly all rotted before they were fully ripe. Then one or two of Early Louise and Early Rivers went about the same way. Early Beatrice, which Mr. Thurlow considers the best early he has, was less affected by rot. In seeking to account for rot, it was thought that the unusually wet weather at the time ripening, together with the bees and other insects, was the cause. Mr. Thurlow has noticed large numbers of honey bees flavoring to extract the juice from the fruit, and from that spot on the fruit the rot set in and eventually the fruit would drop off the tree.

On the same date, Mr. Thurlow informed us that the yellows had unfortunately broken out in the middle of the orchard, where the very best trees were situated; and that two years ago it broke out in the same way, and by then cutting down and carrying off

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some twenty-five or more trees he had hoped that it was eradicated, but to his great disappointment it broke out this year immediately adjoining where it was in 1879, and thirty more of the very best trees have been sacrificed. Immediately after the removal of the trees, lime was put over the stumps of the same, and around them, and having attended to the liming very thoroughly, Mr. Thurlow hopes that he has now succeeded in checking this great scourge to the peach trees. He intends to lime his whole orchard next spring, besides putting ashes around each tree.

After all that has been written about the yellows, and a very thorough search for any information that could possibly be of any value on this point, we must confess that, like many others, we have not yet found the preventive or the remedy; but, if it is caused by a fungus, as many think it is, lime, in a caustic state, may prove beneficial, and, perhaps, if properly applied from the time of planting, may be a preventive. Mr. John Rutter, of Pennsylvania, a successful peach grower, and author of a work on peach culture, advocates such an application.

The committee again visited Mr. Thurlow on the 21st of September, and, although they did not find so much of a crop as might have been expected, they desire to mention the Crawford's Early as being particularly fine, and altogether the best flavored fruit; but, if nothing further happens to the trees, it seems highly probable that a good crop may be expected another season, as the wood was well ripened and in good bearing order. At that time the Crawford's Late also promised well. On the 4th of October Mr. Thurlow wrote that he had two trees of Osgood's Yellow, which were nice, and were full without rotting, promising much better than the Crawford's Late.

In the cultivation of this orchard Mr. Thurlow says, that if all the trees are destroyed now he is amply paid for the trouble he has been at, and has demonstrated the fact that peaches can be raised at little expense, and on land that would be of little or no value for anything else, as the following facts illustrate: The third year from planting, the fruit realized $100; the fourth year, $600; the fifth year, $50, and the sixth, $400; in fact, Mr. Thurlow is so sanguine in regard to cultivating peaches successfully and profitably, at a price that will bring them within reach of the masses, that he proposes to buy quite a farm on elevated ground, and devote it entirely to peach culture. The Committee award to Mr. Thurlow the first premium for the best peach orchard.

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We desire, also, to mention the very excellent condition of Mr. Thurlow's nursery, and his systematic method of naming trees and shrubs, using every means to give the purchaser just what he orders, and the best that can be grown. We were much pleased with his fine bed of *Lilium longiflorum*, which at the time of our first visit was in full bloom, and was estimated to have at least two thousand flowers. It was well worth a trip to West Newbury to see.

Marshall Miles's Peach Orchard.

On the 24th of September the Committee visited the orchard of Marshall Miles, at Concord, Mass., which was, unfortunately, entered too late for premium. Mr. Miles has, however, at the request of the Chairman, transmitted an interesting statement, which is appended to this report.

As far as obtaining a crop is concerned, the trees in Mr. Miles's orchard were all very heavily laden with fruit, and each was a perfect picture, and the crop, as a whole, was such as we never saw before. Although Mr. Miles informed us that he had thinned out considerable, evidently too much was left on the trees for their future good, and flavor was largely sacrificed to abundance of crop. The cultivation is so well explained in Mr. Miles's statement, that it is not necessary to speak on that point. The appearance of the trees was good evidence of the success obtained. The Crawford's Early were being picked; the Crawford's Late promised well, but the Committee were of the unanimous opinion that the Oldmixons were by far the best. The visit to Mr. Miles was very gratifying to the Committee, inasmuch as he has, by energy and perseverance, fully proved that peaches can be successfully raised in our uncertain climate, and the Committee unanimously award to him a gratuity of $15 for successful cultivation of the peach.

John B. Moore's Peach Orchard and Vineyard.

The same day the Committee visited the grounds of John B. Moore, and it is needless to speak of the very excellent condition in which everything was found, as all who know Mr. Moore are fully aware of the superior methods of cultivation adopted by him, which his exhibits fully attest; the whole place was a model of neatness and good order. The young peach orchard promises much for the future, and the Crawford's Early, in size, and particularly in flavor,

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were the best we have seen and tasted. The vineyard was in good order also. The Moore's Early grapes were particularly noticeable; the fine bunches and highly colored fruit were ample evidence that the value of this grape has not been over-estimated. The fine collection of hardy plants, particularly the Phloxes and Hybrid Perpetual Roses, was in excellent condition.

We desire to express our thanks to Mr. Thurlow for his unbounded kindness and hospitality; also to Mr. Moore and Mr. Miles for attentions shown the Committee.

Our thanks are also due to Major Ben: Perley Poore, of Indian Hill Farm, West Newbury, on the occasion of our second visit to Mr. Thurlow, for kind attention in showing the Committee what he had been able to accomplish on a waste, barren hill, where once hardly a blade of grass would grow, but which is now covered with a luxuriant growth of a great variety of forest trees, both deciduous and evergreen. We hope at some future time to be able to make a more extended report of this interesting place. Mr. Poore was some years ago awarded the premium of $1,000, by the Massachusetts Society for Promoting Agriculture, for the best plantation of oak trees.

In conclusion, we would suggest that the Committee be instructed to visit such places as contain objects of interest, from time to time, as they see fit, if not invited formally by the proprietors, and to make such reports as may be of interest to the Society, and promote the art of horticulture.

JOHN G. BARKER,
GEO. S. HARWOOD.
E. W. WOOD.
HENRY ROSS.
JOHN C. HOVEY.
C. N. BRACKETT.
WM. H. SPOONER.
} *Committee.*

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STATEMENT OF MARSHALL MILES.

Situation given the orchard I desire to enter for premium

Ground selected five years ago for my peach orchard consists

Trees a half acres, entirely free from stones, the surface

Planted the centre, thus giving a gentle slope to nearly every

Distance with compass. The soil is a sandy loam, slightly alluvial,

Soil clay to a depth of fifteen inches; the whole

Crops a subsoil of yellow loam. This land had been culti-

Manured crops in rotation, including grass, for many years, and

Preparation manured with barnyard manure, but not liberally.

Ploughed for setting the trees, the land, which was in grass,

Pulverized ughed in the fall, and again in the spring, and thoroughly

Varieties ized. The four hundred trees, divided between the Craw-

Time of ford's Early, Crawford's Late, and Oldmixon Freestone, when

Manner of set, were one year from the bud, and were set about the middle of

Depth May, six to ten inches deep, and twenty feet apart each way, so

Distance as to allow the sun access to the roots even when fully grown.

Great care was used in placing the roots naturally and putting the

Fine earth in firm contact with every fibre. No manure of any kind

Manure was applied at the time of setting, but potatoes were immediately

Cultivation planted, manured with barnyard manure quite liberally, and hoed

Pruning three times; they produced four hundred bushels of good pota-

toes. No other manure was applied to the trees the first year, but

they were carefully trimmed and headed back sharply, so as to

produce a good shape. This heading in has been continued in

September every year. As soon as the ground was frozen, I

mulched the trees with meadow hay, covering out beyond *all* the

roots, carefully keeping the mulching in its place during the win-

ter and until the season was confirmed, thus ensuring the protec-

tion of the buds from too early development. This mulching was

renewed during midsummer, serving as a protection from drought

while modifying the heat of the sun.

The second year I raised a crop of two hundred bushels (in the

ear) of pop corn. It was manured with barnyard manure spread

broadcast and ploughed in. No manure was applied directly to

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the trees. The growth of the trees at this time was most vigorous, and they were carefully trimmed back.

The third year I raised a crop of white beans, which was manured in the hill with a little hen manure composted liberally with muck, producing fifty-one bushels of beans. During the season, which was a very unpropitious one, the trees grew rapidly, producing ten bushels of fruit. Great pains was taken to keep the growth shapely.

The fourth year the orchard was ploughed but not planted. About the 15th of May thirty bushels of air-slacked lime was dug in about the outer circle of the branches, thus reaching the small roots. In June a mixture of saltpetre waste and wood ashes was applied in the same manner. The crop set so abundantly that fearing to tax the trees too much, what would have been equivalent to one hundred bushels of fruit was picked off in a green state. The peach crop for that year was seventy-five bushels of very fine fruit.

Last year the crop of corn, potatoes, and beans, was manured in the hill; the corn and potatoes with a fertilizer composed of bone dust and muck, and the beans with hen manure and muck. The crop of peaches was twenty-five bushels of fair, large fruit, but this was not a peach year.

The present year I have planted no crop among the trees but have kept the ground as clean as I could conveniently, and about the middle of July I gave the orchard a light dressing of hen manure and wood ashes, and applied half a barrel of water to each tree, to assist in carrying out the crop. I thinned out a large quantity of green fruit, but think it would have been quite as well if I had taken out more, although the fruit is of good size and the trees have borne up remarkably well, very few of them having broken, owing in part to the very favorable weather. I have marketed up to this date about sixteen hundred baskets of good fruit, which I should judge to be not much more than two-thirds of the entire crop, as the late varieties have not yet matured.

The cultivation described above may not only show to a considerable extent what food peach trees need, but may also suggest how the land can at the same time be otherwise utilized with safety to the trees.

Respectfully yours,

MARSHALL MILES.

Concord, Mass., Sept. 26, 1881.

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THE YELLOWS.

The Committee also take the liberty to append to their Report the following extract from the Annual Report of the Michigan Pomological Society, for 1878 (page 262), which they deem a good summary of what is known concerning the yellows and the best course to pursue in regard to it, and which may prove useful to those interested in growing peaches. We may not be able to make such laws as are proposed in the last paragraph of the extract, but if all growers can be made to realize the importance of following these suggestions, the terrible disease may at least be checked, if not eradicated. The Committee also recommend to peach growers "The Culture and Diseases of the Peach," by John Rutter; a book which contains many valuable hints and cannot fail to be a helpful guide.

MORE ABOUT THE YELLOWS.

The following communication was presented by Mr. N. H. Bitely, as a compilation of facts elicited by the yellows discussion:

1. That the disease is contagious, and in some manner is communicated from tree to tree, from orchard to orchard, and from one neighborhood to another.
2. That it did not originate in Michigan, but was probably imported from its original home, the peach region of New Jersey, Delaware, and Maryland.
3. That neither soil nor cultivation is a factor in its spread.
4. That both budded and seedling trees, and all varieties of either are subject to its attack; although there are some facts to show that the white fleshed peaches are more exempt.
5. That it may be communicated from tree to tree by pruning knife, shears, or saw. Hence the implement used in pruning a tree should be thoroughly cleaned before making a cut upon another tree.
6. That no remedy is now known except to destroy the diseased trees promptly, and to neglect such destruction is sure death to an orchard, and all other orchards in the vicinity.
7. That the prompt eradication and burning of the diseased

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trees may stop it entirely in an orchard, and at least will greatly retard its progress.

8. From the foregoing the conclusion seems inevitable that nothing but a stringent law, for the destruction of the diseased trees, applicable to the whole State, diligently and energetically enforced, will prevent the loss of every peach tree in the State. Without such a law we may bid a long farewell to this most luscious fruit which has so long been both a source of pride and revenue to the State. With such a law, so enforced, the future of the peach will be more hopeful.

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REPORT

OF THE

COMMITTEE OF ARRANGEMENTS,

FOR THE YEAR 1881.

The Committee of Arrangements would respectfully submit their Report for 1881.

The exhibitions throughout the year have been highly gratifying to the members of the Society and to the public generally, and the Society has every reason to know that the interest in the cultivation of Fruits, Flowers, and Vegetables is constantly increasing.

Meetings of the Committee of Arrangements have been held at stated times during the year, and whenever it was necessary to consult as to the best means and methods for arranging and managing the various exhibitions. The Azalea and Rose, the Rose and Strawberry, the Annual, the Chrysanthemum, and the weekly exhibitions have, if possible, surpassed those of other years, and have given much pleasure to the many visitors.

At the Annual Exhibition, in September, the Plants and Flowers were shown in the Music Hall, and were so beautifully and artistically arranged as to elicit the admiration of every one, and more especially the members of the American Pomological Society, who were the guests of the Massachusetts Horticultural Society.

Records of each meeting of the Committee of Arrangements have been kept by the Secretary of the Society, and might be given here if necessary, but as they relate only to business details concerning the exhibitions of the Society, they would fail to be of general interest.

Adopted by the Committee.

CHARLES H. B. BRECK, *Chairman.*

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MEETING

OF THE

AMERICAN POMOLOGICAL SOCIETY.

The Eighteenth Biennial Session and Exhibition of the American Pomological Society was held in Boston on the 14th, 15th, and 16th of September, 1881, at the invitation of the Massachusetts Horticultural Society. The two spacious halls in the Horticultural Society's building were devoted to the fruits contributed to the Pomological Society's exhibition, and to the fruits and vegetables exhibited by the Horticultural Society, the exhibition of plants and flowers being held in the Music Hall. The central and two western tables in the Upper Horticultural Hall were set apart for the fruits of the Pomological Society, which were gathered from every part of the United States and the Dominion of Canada, from New Brunswick to California, and from Montreal to Georgia. The most noticeable collection was from Michigan. It included a large variety of apples, pears, plums, and peaches, *Monstera deliciosa; Asimina triloba* (papaw) and other Western fruits and nuts; also an instructive collection of the useful and injurious insects of the State. S. C. Harlow, of Bangor, Maine, exhibited 14 varieties of pears, and 68 of apples. James H. Ricketts, of Newburgh, New York, showed 18 varieties of his new seedling grapes, and Ellwanger & Barry, of Rochester, N. Y., a collection of new pears and grapes. The Montreal Horticultural Society exhibited an interesting collection of 34 varieties of apples; B. S. Fox, of San José, California, 90 varieties of seedling pears; Dr. J. W. Strentzel, of Martinez, Cal., a collection of grapes, oranges, and a variety of other fruits; several contributors at Los Angeles, Cal., showed oranges, lemons, Japanese persimmons, pomegranates, etc. P. J. Berckmans, of Augusta, Georgia, also showed several varieties of the new Japanese persimmons. James F. C. Hyde exhibited fruit of the *Actinidia polygama*, a climbing

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shrub from Japan, which fruited for the first time in this country the present year. Hon. Marshall P. Wilder exhibited 164 varieties of pears; Hovey & Co., 190 varieties; Warren Fenno, 58 varieties; Benjamin G. Smith, 50 varieties; and there were many exhibitors of smaller collections. The whole exhibition comprised 535 dishes of pears, 188 of apples, 17 of peaches, 17 of plums, 100 of grapes, and 71 of miscellaneous fruits, making a grand total of 928 dishes. The attention of members and delegates at the previous meetings of the Society had been so much engrossed by the great quantities of fruit exhibited, that the sense of the meeting at Rochester, in 1879, was that the exhibition of large collections of fruit was not desirable, but that the show of fruits should be confined mainly to new or rare varieties, or such as for any reason possessed special interest, and hence the quantity exhibited was less than in previous years.

The meetings of the Pomological Society, for the discussion of fruits, were held at the Hawthorne Rooms, on Park Street, beginning at ten o'clock in the morning of Wednesday the 14th of September, when the delegates and members were welcomed in behalf of the Massachusetts Horticultural Society, by the President, Hon. Francis B. Hayes, who spoke as follows:

Mr. President and Gentlemen of the American Pomological Society:—In behalf of the Massachusetts Horticultural Society I cordially welcome you all who have honored our society and city by your presence on this occasion. From the Dominion of Canada to the everglades of Florida, from the Atlantic to the Pacific shore, all receive our warmest greetings. We feel as if you were children of our own, connected so intimately as your society has been with ours, the elder one, from your birth. If not our offspring, you are our very near and dear relations, and as such we welcome you to our home. It is with pride we receive as our guests so distinguished and useful a society as yours, and we are highly gratified to have the privilege of tendering all the facilities at our command to make your sojourn with us both profitable and pleasant to you.

You will see in this city and State a community diligently engaged in the peaceful arts of life; some are well known to you as being deeply interested in agricultural and horticultural pursuits. Here is the home of those who have been largely occupied in fostering manufacturing industries, illustrated by the two extensive exhibitions of mechanical art now presented in this city, and in

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opening new avenues of commerce for the interchange of commodities between the different sections of our country, thereby uniting in the bands of mutual interest and sympathy all parts of this continent. If you are interested in the cause of education, our public schools, and schools and galleries of art, as well as our higher seminaries of learning, will be open for your inspection. Should you desire to see what we have done in horticulture, you have admission to the gardens of Hunnewell, Wilder, Payson, Sargent, Gray, Gardner, Ames, Hovey, and others. Should you be pleased to see places associated with the struggles of our fathers in asserting and maintaining their cherished principles of religious, civil, and political freedom, you will visit Plymouth Rock, Lexington, and Concord, and, within the limits of this municipality Bunker Hill and Dorchester Heights, as well as Faneuil Hall, and the Old South Church, from which the tocsin of liberty was sounded rousing men throughout the land to unite with heart and hand i securing their sacred, inalienable rights.

It is a most pleasant thought, Mr. President, that this nation at peace with itself and all the world. We have "beaten ou swords into ploughshares and spears into pruning hooks," and th entire Anglo-Saxon race is now harmoniously working out togethe the grand problems for the extension and perpetuity of freedo and the advancement of humanity.

In these noble objects, sir, your society has a deep interest. About one-third of a century has elapsed since your organizatio and you may look with great satisfaction upon what you hav accomplished. By your instrumentality, chiefly, the cultivation o choice fruits has been extended throughout the larger portion this continent. You have been far in advance of all others promoting the production of the largest and best varieties fruits, and in naming them, so that the world can make its sele tion through the information your association has obtained a disseminated with great labor and liberality. Thus you ha largely contributed to the comfort and happiness of mankin besides augmenting in a wonderful manner the wealth of this co try. And, better than all this, your association has exerted powerful influence for the common good in bringing together m of large intelligence and ability from the different sections of t country and the great Northern Dominion, and thereby cultivati sentiments of respect and friendship for each other, and esta

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...non brotherhood of laborers, having for the object of
...n the development of the resources of nature, the
...mankind.

...ust pardon me, gentlemen, for expressing the gratification
... associates have, that in this great work of moral and
... improvement our venerable fellow-citizen, who for several
...illed the chair which I now occupy, is your leader. For
...han thirty years you have with unanimity selected him to
... over your body, and you fully appreciate and gratefully
...wledge how much has been accomplished by your society
...h his zeal, indefatigable industry, and wise counsels. Long
...is life of usefulness be preserved to us all!

...u, sir, and your associates have the best wishes of the Massa-
...setts Horticultural Society that your convention may be har-
...ious, agreeable, and promotive of the important objects of
...r organization; and we shall hope you may have no cause for
...ret that you have honored us by your presence.

At the conclusion of Mr. Hayes's remarks, President Wilder
...spoke in the language following:

Mr. President:—In behalf of the American Pomological Society
I beg to return you our sincere thanks for your kind words of wel-
come, and for the elegant and commodious preparations you have
made for our reception.

We are right glad to be here once more, and to accept of the
...spitalities which you have so generously extended to us,—here
the old Commonwealth of Massachusetts, the land of the
...ritan and Pilgrim fathers—here in old Boston, from which
...anated some of the first fruits of American pomology; here
...ere *William* Blackstone, the first white settler on our peninsula,
...ted an orchard on yonder Capitoline Hill, two hundred and
...years ago; here where John Winthrop soon after planted a
...eyard and orchard on his island farm in our harbor; here where
...ohn Hancock had his nursery a hundred years ago; here at the
home of the Massachusetts Horticultural Society, the second
permanent institution of the kind on this continent; and may I
not add, here at the home of your ancient president, where for
more than half a century he has labored for the advancement of
...the soil.

...President, as I shall address the society more formally
this afternoon, I will refrain from further remarks except to say

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that we hope to be honored with your presence and that of the members of your society during our discussions.

Mr. Hayes then arose and extended an invitation of the society to the banquet on Friday evening, in the following words:

Mr. President:—I respectfully invite you and all other members of the American Pomological Society, with your ladies, to a banquet which the Massachusetts Horticultural Society will give on Friday evening next in honor of your association.

The biennial address of the President was delivered in the afternoon, and the remaining two days of the session were devoted to receiving the reports of committees, the reading of essays and other papers on pomological subjects, and the discussion of the characteristics and value of the different fruits.

The Banquet.

The banquet at Music Hall, on the evening of Friday, the 17th, was a fitting conclusion to a week devoted to the study of nature, and the exposition of her rich offerings of fruit and flowers. The scene in the great hall was most beautiful and inspiring. The rare exotics which had been exhibited there through the week, decorated the platform, the balconies, and the sides of the hall, imparting to it an air of refinement and elegance; and tasteful bouquets were arranged on the tables, or suspended from the balconies. The plants and flowers, and still more, the bright, happy faces of the hundreds of ladies and gentlemen present, made up a picture at once charming and exhilarating, while the musical strains that ever and anon came floating from the rear balcony, where the Germania orchestra was stationed, filled the air with a concord of sweet sounds that were in happy harmony with the time and the occasion. Shortly after six o'clock, the hearty applause announced the appearance of the President of the Horticultural Society, Hon. Francis B. Hayes, with his Excellency, Governor Long, on the right, and Hon. Marshall P. Wilder, President of the Pomological Society, on the left, the three taking seats at the front centre table. Others on the platform, were Ex-Governor Frederick Smyth, of New Hampshire, Hon. A. W. Beard, Collector of the port of Boston, Rev. Samuel K. Lothrop, D.D., Patrick Barry, First Vice-President of the Pomological Society, Samuel B. Parsons, of Flushing, N. Y., Dr. John A. Warder, President of the Ohio Horticultural Society, T. S. Gold, Secretary of the Con-

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necticut Board of Agriculture, Hon. T. T. Lyon, President of the Michigan Horticultural Society, Professor William J. Beal, of the Michigan Agricultural College, Secretary of the Pomological Society, William Saunders, of the United States Department of Agriculture, Hon. J. E. Mitchell and A. W. Harrison, of Philadelphia, Charles M. Hovey and William C. Strong, Ex-Presidents of the Massachusetts Horticultural Society, Hon. Charles L. Flint, Ex-Secretary of the Massachusetts Board of Agriculture, Henry A. Breed, of Lynn, one of the founders of the Massachusetts Horticultural Society, Hon. Thomas C. Amory, Major Ben: Perley Poore, Rev. George E. Ellis, D.D., and Benjamin G. Smith, Treasurer of the Pomological Society.

Rev. Dr. S. K. Lothrop asked the blessing, and after an hour's attention to the substantialities of the banquet, the intellectual feast began with the welcoming address of Hon. Francis B. Hayes, President of the Massachusetts Horticultural Society.

Address of Hon. Francis B. Hayes.

Ladies and Gentlemen: — The Massachusetts Horticultural Society extends to you all its cordial greetings. Whether you have come from distant parts of this continent, or from the neighborhood; whether you fill high places of state, or hold other eminent positions, or occupy "the post of honor, the private station," all are most heartily welcomed to this board. We come here after work has been done, to refresh ourselves in each other's society, to rejoice together that we are the recipients of the rich gifts of bountiful nature, and to honor those who have done so much in developing its resources for our comfort and happiness. It is most pleasant to see so many of the fair sex gracing these tables. Man can always be sure that his objects are worthy and elevated when woman is interested in them and manifests her approval of them as she does now by her presence. The refining influence of devotion to the cultivation of fruits and flowers is universally admitted. Home is made delightful by their presence, and when they are absent, a lower state of intelligence and refinement is immediately noticed. High and ennobling aspirations belong to the lover and diligent student of nature, which accompany him as guardian angels in this life, attend him to its close, and fit him better for entrance into the land of purity and bliss.

We are highly gratified to welcome here the venerable president,

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and so many of the members of the American Pomological
our distinguished guests, in honor of whom we are a
You have come to us, Mr. President and gentlemen, bri
fruits with you; not merely the choice and rich display
seen upon your tables, but the grand results of your
intelligence, your labors, your long and varied experience
adaptability for growth in the various parts of the their qu
zones can be raised. No narrow State or national territo
pied by your Society, wherein almost all the fruits of the
benign influences. Abroad, as well as at home, your lines li
the first of the great national pomological societies are k
and your investigations, studies, and practical experience of the
improve, and bless mankind.

Mr. President, it affords me and my associates, enl
to bear witness that though the snows of more great pl
winters have fallen upon your head, yet your than fou
America's pomologists, are constantly, diligently the chi
astically at work in promoting the praiseworthy and ent
society. Though for almost two generations of objects of
been known in this community as one of Boston's men, you
nent merchants—and are now, it is believed, the most pr
though you have held, with honor, high offices oldest one—
trust, both of public and private character, yet, the of dignity
possessing your soul, your peculiar mission seems love of nat
by your example and teachings, and by the use to have be
Providence, to give dignity to the occupation of of the gifts
soil, and elevate to the highest consideration the the tiller of t
of horticulture and agriculture. Recognizing, la science and a
men, the eminent services of the venerable presi dies and gentl
dation, establishment, and progress of the associa dent in the four
was the first president and its head for more than tion, of which h
at the same time gratefully remembering all, wh thirty years, an
absent, who have worked successfully in the sam ether present o
during that period, allow me to propose this senti e field with him

"The American Pomological Society: All ho ment:
invaluable benefits it has conferred upon ma nor to it for the
benign influences be extended to and bless the nkind! May its
tions!" remotest genera-

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RESPONSE OF HON. MARSHALL P. WILDER.

Hon. Marshall P. Wilder, the President of the American Pomological Society, responded as follows:

Mr. President:—It is a singular and pleasant coincidence that has brought us together, here at our own homes, in the exchange of official courtesies. You have the honor to preside over one of the oldest and most prosperous horticultural societies of our country, while I have the privilege of responding for one more extensive, which embraces in its organization not only the Union, but our entire continent. But the objects of our institutions are much alike—the promotion of an art which combines in its results the most perfect union of the useful and beautiful the world has ever known.

Most sincerely do I thank you, Mr. President, for your kind appreciation of my poor labors. You do me no more than justice when you call me a friend of rural art, for I cannot remember the time when I did not love the cultivation of the soil.

But, Mr. President, there is no merit in these. They are the instincts of my nature, and I have been prosecuting them under the conviction that I could do nothing better for mankind; and could my life be prolonged for another fourscore and three years, I would devote them all to the promotion of this most delightful and benevolent pursuit. In behalf of the American Pomological Society, I thank you for the hospitalities and courtesies that have been extended to us this week.

We are happy to be here again in the good old Commonwealth of Massachusetts, so renowned for the interesting memorial associations to which you most happily alluded in your eloquent welcome speech on the opening of our convention, the home of free schools, free churches, and may I not say, free speech; here, within the limits of this goodly city, where yonder monument rears its head in commemoration of those who fell in defence of American independence and human rights; the Old Cradle of Liberty, which still rocks to the songs of patriotism and freedom; the Old South, from whence sallied forth that noble band which converted Boston harbor into a monstrous teapot, the history and spirit of which have been wafted by its waters throughout the civilized globe; and here at the home of the Massachusetts Horticultural Society, over which you so gracefully preside. The Massachusetts Horticultural Society has been a great leader in pomological science. She has

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been the mother of numerous other societies, among which you have properly counted our own, for it was by her authority that I was empowered to issue the circular which assembled the National Convention of Fruit Growers in New York that organized the American Pomological Society, and nobly has she sustained our institution to the present day.

With the close of these ceremonies the American Pomological Society will have completed thirty-three years of its existence. It was the first national society for the promotion of pomology of which we have any account in history. But it is more than national; it is American, and embraces the provinces of British America on the north. It has vice-presidents and fruit committees in more than fifty States, territories, and districts, through whom we receive reports of the fruits adapted to their various locations; and wherever the pioneer and emigrant take up their homes we seek to find out what fruits prosper there. It has held its sessions in the various great cities of our country, and now, for the fourth time, it comes to receive the hospitalities of the Massachusetts Horticultural Society.

Mr. President, we live in an age of remarkable activity and enterprise, and in nothing is this more to be seen than in the progress of fruit culture during the present century. Many of us can remember the time when the only strawberry in our markets was the wild strawberry of the fields. Now I have on my register the names of more than four hundred kinds which have been under cultivation in my own day; and so great has been the increase in quantity that Norfolk, Va., has sent to the Boston market the last summer over six thousand bushels in one day, and a little town in our own vicinity has sent ten thousand bushels the present year. Fifty years ago there were no hardy grapes in our market except a few Isabellas, Catawbas, and the wild varieties; now we have under cultivation more than two hundred kinds, and California alone can produce not only enough to supply the country, but ships entire cargoes of wine to Europe to be manipulated and muddled over, and sent back to us for consumption. The same increase may be noticed in the production of the peach, millions upon millions of bushels being sent to our various markets; and so extensive has been the export of apples that Boston alone has sent to Europe and elsewhere the last year more than six hundred thousand barrels.

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bring these remarks to a close. Suffice it to say reflect on what has been accomplished since the Pomological Society was established, the vast territory as yet to be occupied with the culture of fruits, their import- an article of food, and as one of the great sources of ional revenue, I pray that my life may be prolonged for a few rs to see more of the great future of pomology on this continent, en all of its fruit lands shall have been opened up for cultivation; hen the Northern Pacific Railroad shall have connected us with Oregon, Washington, Puget Sound, Sitka, and southern Alaska, ith climates in many places milder than in New England; when the Southern Pacific road, penetrating the rich lands in Mexico, Arizona and the valleys of the Rio Grande and El Paso, already renowned for their wild fruits and grapes—when these, together with Texas, larger than all New England and the Middle States—and those of our vast interior and the immense resources of the Pacific slope, are all brought into cultivation—and all this is to come. en will our country possess the most productive and remarkable orld has ever known; as distinguished for the bundance of its productions as it now is for its institutions, prosperity, and power.

Mr. President, I cannot take my seat without thanking you in for the honor you have conferred on our society, for the liant assembly with which you have surrounded us, for these gnificent plants, luscious fruits, and lovely flowers, and, better n all, for the presence of woman, which adds grace, beauty, and erest to the scene.

President Hayes then announced the second regular sentiment follows:

"The Commonwealth of Massachusetts; distinguished for pro- ting the cultivation of the soil as well as the culture of the mind. r fathers planted the tree of liberty, and their children gather rich fruits in peace and prosperity."

Response of Governor Long.

The Governor said that inasmuch as it was without previous tice that he was called upon to speak, his friends who were red would be spared any but the briefest remarks. He ng fail to take advantage of the opportunity to thank

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the society, which, during the past fifty years, has been one of the educators not only of this Commonwealth but of the whole country; nor could he fail to pay the sympathetic regard of all to the Nestor among the chiefs of horticulture, who represents the fathers that planted the tree and the children who gather the fruit, and who enjoys the distinction of being at once the oldest and the youngest man in Massachusetts. He desired also, in behalf of the Commonwealth, to welcome so many representatives of other States and Territories, who had come here for the common good, and who are engaged not only in the interests of pomology but in securing the common ties which make our States members of one domain. The culture of the soil goes hand in hand with the culture of the mind. Go out among the hills, visit the large rural populations, and you will find, as in the cities, fair after fair exhibiting marks of increasing progress. The exhibit which the society is making in a neighboring hall is only an indication of the work of culture that is going on in the whole community. The cultivation of the soil is no longer living on the bounty of the earth; it is finding out the secrets that lie within, and securing the rewards which she offers to devoted labor and skill. Nothing is more suggestive in these days than the increase in production, not only for the benefit of the rich, but for the poor, and with all this increase the individual's condition is improved, so that he enjoys a higher life and greater possession in all the arts of living. It is teaching the true theology, the true patriotism, the true loyalty, by which each man works for the common good by devoting himself to his special pursuit. He who invents a contrivance, or brings forth a new variety of fruit, is laying the foundation for the greater comfort of his fellow-men hereafter. The Governor concluded by expressing the pleasure which it gave him personally to greet the members of the Pomological Society.

After more music, President Hayes announced the next sentiment as follows:

"The President of the United States — The sympathy of the Massachusetts Horticultural Society and its guests, the American Pomological Society, assembled in Boston, is extended to our beloved President and his family in their affliction, with the hope and prayer that his valuable life may be preserved to bless the nation."

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Remarks by Collector Beard.

Hon. A. W. Beard was called on as the representative of the National Government. He observed that eleven weeks ago the heart of the nation stood still on hearing the news that came from Washington. For eleven weeks we have listened to the click of the telegraph wire, to hear the news of life or death. The strain upon the sympathies of the nation has had no parallel since the war. We have seen a terrible thing, that this man, in the prime of his life and powers, should be stricken by an assassin. We have sought the only thought of relief—that the nation can survive whether the President live or die; but this has not stilled our anxiety. The President still waits patiently; let us emulate his patience. The calamity was a terrible one, and yet there has been a silver lining to the cloud; for the hearts of all throughout the land have been united in sympathy, and, whatever the result, the nation will be the better for it. With our hearts aroused as for a dear father or brother, let us rely on Him who doeth all things well.

Other Speeches.

The following sentiment was then proposed:

"The City of Boston — Prominent in history from its early struggles in the cause of freedom; her free schools, free churches, and benevolent institutions have borne abundant harvests of rich fruits in which the people rejoice."

In the absence of Mayor Prince, who sent a pleasant letter, Alderman C. H. B. Breck responded, as follows:

Mr. President, Ladies, and Gentlemen: In the unexpected absence of His Honor the Mayor, and representing the City Government, I take great pleasure in replying to the sentiment you propose, and greet with a warm and hearty welcome the members of the American Pomological Society, who represent every State of the Union and the Dominion of Canada.

The City of Boston is always ready to welcome every association devoted to the general good, but when gentlemen of your profession, whose object is the propagation and cultivation of good fruits, and the rejection of bad ones, come together here, it deems you worthy of its highest regards. Our citizens are deeply interested in the various kinds of fruits; not so much in their cultivation as in being able to obtain them cheaply, so that the poor as well as the rich may buy and eat. We find them pretty plenty gener-

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ally, but I am sorry to say they are sold at such high prices that it takes a well filled purse to buy these life-preserving gifts of nature.

I regret that we have no orchard or vineyard to show you, but we have a public garden tastefully laid out, with beautiful walks, and bordered with rare plants and shrubs, with flowers of every hue; the perfect taste and order displayed in this place which may almost be called a second garden of Eden, are a source of pride to the heart of every Bostonian, and I trust you will find time to visit this lovely spot with its beautiful surroundings.

Hoping that your stay will continue to afford you the greatest pleasure while in the city, I again assure you of the best wishes of our citizens.

The next sentiment was as follows:

"The British Colonies in North America: Bound to this Republic by common interests, brought nearer and nearer by social intercourse, and fastened by the golden links of commerce. May their friendly relations with the United States never be interrupted."

Rev. Robert Burnet, D.D., of Nova Scotia, was expected to respond, but he had returned home.

The following sentiment was next offered:

"The Pomology of the South—From her generous and genial clime we of the North receive the delicious products of her soil while 'winter lingers in the lap of spring.' The enterprise and skill of her cultivators deserve our warmest acknowledgments for greatly prolonging to us the seasons of fruits."

Judge Whitehead, of Norfolk, Va., not appearing to respond to this sentiment, as had been arranged, three cheers were given for Old Virginia.

The next toast was

"The Pomology of the West—The granaries, orchards, and vineyards of the territorial domain of the United States, vast in extent, abundant in resources, are treasure houses upon which the world may draw for their supplies."

Colonel N. J. Colman, of Missouri, responded. He felt he should be doing injustice to the West if he did not say that every man and woman in the West felt gratitude to Boston for this welcome. It is true that the West has not had a Wilder, a Barry, a Walker, a Manning, and such eminent pomologists, but it can boast of a Warder, a Longworth, a Kirtland, a Flagg. The

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ker alluded to the practical work which is now done in
West, making the study of pomology a part of the education
e young. The West loves the Hon. Marshall P. Wilder as a
ul son loves his parent. The Mississippi Valley Horticultural
ty, which is to meet at Chicago, will show what the great
is capable of doing.

n. Isidor Bush, of Missouri, presented a greeting from the
r of fruit-growers in the West, Hon. Fred Müench, who
a bunch of grapes to President Wilder.

he next sentiment read was

The Pomology of the North: Despite her cold and uncongenial climate, her rough and rocky soil, she produces fruits which in excellence those of the most favored climes."

harles M. Hovey, Ex-Vice President for Massachusetts, responded in a pleasant manner, and said, in speaking for the North, we feel delighted to give greeting to our friends from all sections interested in this great subject of pomology. We have gained uch through this society that we are not obliged individually st all the fruits, but can learn by the experience and teaching is organization. He alluded to the fruits which the North contributed to the country as durable and valuable accessions e resources of the people.

he next sentiment read as follows:

The Pomology of the East: The pioneer in the progress of rican civilization, scattering its fruits like manna from the all over our land."

sponse by Samuel B. Parsons, of New York.

e next sentiment was

The United States Agricultural Society: The uniform friend merican Agriculture; the annals of her history attest the value er former labors. May she never lack the sunshine of patron- may she reap an abundant harvest of renown."

esponded to by Ex-Governor Frederick Smyth, of New Hamp-, who referred in an affectionate manner to his various rela- s, public and private, with Col. Wilder, and to the interest ch he felt in the cause of American Pomology.

Major Ben: Perley Poore, Secretary of the United States Agri- ural Society, was then called for and responded in his usual sant vein.

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Apart from Thee we plant in vain
The root and sow the seed;
Thy early and Thy later rain,
Thy sun and dew we need.

Our toil is sweet with thankfulness,
Our burden is our boon;
The curse of Earth's gray morning is
The blessing of its noon.

Why search the wide world everywhere
For Eden's unknown ground?—
That garden of the primal pair
May never more be found.

But, blest by Thee, our patient toil
May right the ancient wrong,
And give to every clime and soil
The beauty lost so long.

Our homestead flowers and fruited trees,
May Eden's orchard shame;
We taste the tempting sweets of these
Like Eve, without her blame.

And North and South and East and West,
The pride of every zone,
The fairest, rarest, and the best
May all be made our own.

Its earliest shrines the young world sought
In hill-groves and in bowers;
The fittest offerings thither brought
Were Thy own fruits and flowers.

And still with reverent hands we cull
Thy gifts each year renewed;
The good is always beautiful—
The beautiful is good.

T[illegible]n came the last sentiment of the evening:

"[illegible]: In the magnificent exhibition which she has made to [illegible] witness a bountiful harvest of good fruits raised on good soil [illegible] We rejoice in the growth and prosperity of the State."

Response of the Hon. W. K. Gibson:

Mr. President: I appreciate the honor of being called on to re[illegible]pond to a sentiment so complimentary to the State to which I b[illegible]long.

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call the eternal fitness of things. For three days, sir, you have shown us the noblest fruits and fairest flowers of your soil, and to night, here in this room, we have had the pleasure of meeting the noblest fruits and fairest flowers of your intellectual culture.

One speaker has said this evening, quoting from Emerson, that much of truth goes floating about the world in popular proverbs. Doubtless this is true, and there is an old saying that every New Englander when he dies expects to go to—Boston. Now if this be true, and it probably is, let me express the wish that such soul may go by the way of Michigan, and, thus escaping purgatory, reach here through paradise.

President Hayes, in making the closing remarks, expressed the gratification felt by the Massachusetts Horticultural Society in having for its guests this evening so many distinguished in the science and art of horticulture, and wishing all a safe and pleasant return to their homes, he asked them to unite in singing America, which was done with enthusiasm, and then the meeting was dissolved.

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their own results with those recorded by others, our discussions would become a powerful means of stimulating observation and thought." The Committee have endeavored to avoid the danger here pointed out, but, in order that the discussions should reach the standard in the minds of the Committee, and attain their highest usefulness, the coöperation of the members of the Society will be necessary, and the Committee trust that each will be prepared to do his best in adding to the interest of the meetings.

The report of the Treasurer for 1880 acknowledged the receipt of $500, for sales of the History of the Society; since then copies have been sold to the amount of nearly three hundred dollars. Your Committee would again call the attention of members who have not already obtained a copy, to the importance of doing so without delay as the number on hand is limited.

A prize of twenty-five dollars has been awarded to Mrs. T. L. Nelson, of Worcester, for an essay upon "Our Native Plants adapted for Winter Culture for their Flowers." Several other essays competing for prizes were received, which, after careful examination your Committee felt obliged to reject.

Respectfully submitted by

BENJAMIN G. SMITH,
JOHN B. MOORE,
E. LEWIS STURTEVANT,
} *Committee on Publication and Discussion.*

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and new varieties of old ones, with cultural notes. From a purely horticultural point of view, this publication seems likely to be second in value to none.

In the first part of the year a fresh attempt was made to supply our table with nurserymen's and seedmen's catalogues. A circular prepared by the Secretary of this Committee was sent to all the leading dealers asking that their lists might be sent to this library from time to time, and setting forth the advantage to themselves likely to result from their compliance. The response to this circular has been very satisfactory; we have received the catalogues of one hundred and sixty-one dealers from all parts of the United States, and from England, Ireland, Scotland, France, Italy, Germany, Holland, Belgium, and Switzerland. Many of these catalogues are very elaborate, and valuable both horticulturally and botanically. It is the intention of the Committee that these shall be taken out as other books are, and that they shall be charged on the Librarian's book. Two of the most valuable, H. Cannell & Sons' and D. M. Ferry & Co.'s, are missing, having been taken by some person who omitted to have them charged; it is requested that those who have them report the fact to the Librarian.

We must again call the attention of the Society to the need of a card catalogue of our colored plates. We have no index to these, except the work of Pritzel; if this Society were dead, or if it had made no growth since the date of that publication, nothing more would be needed; but this is a body alive in all its parts; its library is expending a large sum annually, and must spend or forfeit it. How many plates we have received of which we have no index, we cannot say, but believe that they might be numbered by thousands. The present time is without parallel in horticultural advance and botanical research; exploring parties sent out by governments and societies are bringing back new vegetable treasures month by month; the great horticultural establishments of Europe have their own private travellers in all parts of the world, and new varieties are constantly coming into existence by the art of the hybridizer. The prospect, therefore, is that for a long time to come there will be subjects in abundance for the draughtman's skill. Most of these plates will come to this library in course of time, but if no index to all these exists, their value is half lost to us. The cost of such a card catalogue need not be very great; there would be no need of botanical verification of every plate; a simple list of

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ROBERT MANNING,
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for the past year fell short of the
ve may obtain, in the future, an in-
n of the income, which otherwise we
ropriated by the Proprietors of Mount
of newly purchased land, from the
t remunerative returns.

GEO. W. FOWLE, *Treasurer*.

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URAL SOCIETY,

ORS OF THE CEMETERY OF MOUNT AUBURN, *Dr.*

e following expenditures for grading new lands for

venue to Eagle Avenue.

. . . . .	$2,057 50	
e, ...	3,051 12	
		$5,108 62
rth part is, ...		$1,277 15

r 31, 1881. J. W. LOVERING, *Supt.*

be a true copy of accounts of improvements fo
he Superintendent.

H. B. MACKINTOSH, *Treasurer.*

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Mushrooms were held in detestation by the
islator Yama declaring the eating them
m the ground or growing on a tree fully
ing of Brahmen" (W. Jones). They are
as of India (Hooker). The mushroom
en cultivated by the Romans of antiquity.
that they were highly prized by the epicures
those which grew at the roots of the oak
d. In Poland and Russia above thirty
asantry, not only in their fresh state, but
winter consumption; in Lapland, called
the people. In France, Germany, and
guses not only constitute for weeks to-
thousands, but the residue, either fresh or
rved, in oil, vinegar, or wine, is sold by
valuable source of income to many who
to bring into the market. In England
ned in a fresh state, or made into sauces.
d and forty tons of edible fungi were ex-
Otaheite in a dried state, with a declared
rica they prove a valued food to the epicure.
of Louisiana, notes the use of a kind of
epicurean tendencies. Not only in China,
the Himalayas and in the Rocky Moun-
del Fuego, New Zealand, and Australia,
an countries, certain species afford whole-

.—A cultivated fungus, which is quite
erates five varieties. The wild form is a
s. Cooke enumerates var. *pratensis*, Vitt.,
, Vitt., in woods; var. *hortensis*, Ault.,
. *vaporarius*, Otto; var. *rufescens*, Beck.
everal varieties: the small white, greatly
ten whole; the large white; the cream-
y large, sometimes measuring thirteen and
er. This mushroom is condemned in the
ilan but recently eaten. In the Venetian
It is regarded as a suspicious species in
meets with a welcome. In France, in
d States, it is the one most extensively

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var. *villaticus*, Brond., which often forms
gland, is said by Cooke to be esculent.
l.—The young specimens are said by Bad-
nup.
Classed by Unger as edible.
.—Stated by Cordier to be sought as a

ssed by Unger as edible.
known to the Romans under the name of
ecurring in the chestnut forests of southern
ies which Nero calls *cibus deorum*, or food

lassed by Unger as edible.
f.—Eaten in Tuscany (Cordier) and is
esculent in the United States.
tated by Paulet to be esculent and very

Called in Germary *Kaiserling*, and univer-
inent of Europe. In the United States it
in oak forests, but Dr. Curtis pronounces
f fungi.
Found in the United States in enormous
ed by Dr. Curtis a very fair esculent, bet-

-Called esculent by Cordier.
—One of the best funguses of southern
kes the greatest show in the Italian mar-

f Europe, is enumerated as edible by

eported by Berkeley as esculent.
—Called esculent by Cordier.
Enumerated by Curtis as edible in the
nd in Britain, but not eaten (Cooke).
oung specimens used for making ketchup

A species confined to the United States,
tis as edible (Cooke).
dible according to Unger.
France considered edible, and of excel-

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is fragrant species, with a sweet, anise-
dible by Cordier.
, of the United States, is commended as

A. crassipes, Schaeff.), if carefully dried
avies, says Mrs. Hussey. It cannot be
account of its toughness, notwithstand-
f its flavor. Badham says the young
pickle, while the full grown ones may be
in California (Harkness & Moore).
A. Gregorii, L.)—Esculent, says Cordier,
ndinavia. Cooke says it is the *moucheron*
ch, and highly esteemed in France and
s it amongst Swiss esculents. Professor
the earliest and best of English mush-

Pronounced esculent by Cordier. Its
ble.
let says this species is very good to eat.
. *graveolens*, Sow.; *A. prunulus*, Vitt.)—
r is like newly ground flour; the taste
mely powerful when dried, and excellent

is species, especially one of its varieties,
ual to many, and superior to most of our
ized as esculent in the United States as
Europe (Cooke).
The scent is slight but agreeable. Escu-

edible by Cordier.
Recorded as edible in the United States

-Esculent (Cooke).
elicate to eat, and is used frequently
.
ent, according to Reveil (Cordier).
Recorded as esculent by Cordier.
-Stated by Unger to be esculent.
Said by Bulliard to have a very agree-
thout odor. Esculent.

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, yet it cannot be doubted that it is eaten
sed that the poisonous quality is removed
, salt and vinegar being used, and long

Syn. *A. marginatus*, Batsch.; *A. candici-*
is, Bull. pl. 543, O. P.)—(*A. annularius*,
s.)—Mrs. Hussey says it is esculent, and
ubling gingerbread. Called esculent by
esculent in the United States (Curtis;

Syn. *A. pileolarius*, Bull.; *A. canalicalatus*,
Grev.; *A. caseus*, With.)—Mrs. Hussey
der and digestible when carefully cooked.
s very agreeable in flavor. All who have
Cooke, agree that it is of a most delicate
tion. Badham says the odor is strong,
nd the taste is grateful. Called esculent
tis).
er says esculent; very good and delicate;
vor.
ke says this species has the reputation of
ate, even exquisite, dish. It does not
e continent of Europe, and Roques con-
lities as doubtful. Classed as edible by
edible by Harkness & Moore for Cali-

rs in California, and is called edible by

. *A. pallidus*, Sow.)—Odor of fresh meal
and excellent (Mrs. Hussey). A very
as the peculiar smell of a cucumber rind
).
little buff fungus of excellent flavor,
kept for years. It is called Scotch bon-
the flavor it imparts to rich soups and
d in a dried state in France and Italy.

universally eaten that it is included in
ok on edible fungi. It is the most com-
ania, tons of it sometimes appearing in

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Bull.—Esculent, says Berkeley. Certainly whole-

Cooke.

Vitt., in a youthful state is excellent eaten in sub-

old, and in texture like chamois leather, the ketchup

county in quantity but super-excellent in quality (Mrs.

may be eaten (Cooke). Catalogued for the United

Curtis, and by Harkness & Moore.

Bull.—Enumerated as edible in the United States

Fr.—Esculent according to Paulet.

(Syn. *A. griseus*, Pers.)—The *colomba rossa* of

delicate and light of digestion (Badham).

Pers. (Syn. *A. verrucosus*, Bull.)—Cordier says it is

consumed in Lorraine, being very delicate. Roques speaks

well of it. Dr. Curtis enumerates it as edible in the

States.

issula, Schaeff.—Cordier says it is used for food in Austria.

umerated by Curtis as edible for the United States.

alignus, Fr.—Rare in England, but not uncommon on the

ent of Europe and in the United States. In Austria it is

ly eaten (Cooke).

yciensis, Cord.—Classed as edible by Unger.

A. sapidus, Poir.—Called edible by Unger.

A. scorodonius, Fr.—Said by Cordier to be edible, and in fre-

quent use in Lusace, France.

A. scruposus, Fr., has the odor of fresh meal, is of an agree-

able taste and flavor, and is esculent (Cordier).

A. silvaticus, Schaeff.—Called edible in California (Harkness & Moore).

A. socialis, DC., has a good reputation in the Lower Pyrenees, but they eat the head, and not the stalk, which is leathery (Cordier).

A. solitarius, Bull.—Cordier says the flesh is white and of exquisite taste.

A. spadiceus, Cooke.—This doubtful species is used by the smaller ketchup manufacturers in Britain (Cooke).

A. speciosus, Fr. — Enumerated by Curtis as esculent in the United States.

A. spectabilis, Fr.—Esculent, according to Letellier (Cordier).

A. splendens, Pers.—An edible European species (Mueller).

A. squarrosus, Muel.—Enumerated as esculent for the United

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by Harkness & Moore. Badham says its tender and juicy flesh, and its delicate and sapid flavor, render it equally acceptable to the plain and the accomplished cook. It may be truly said to improve every dish of which it is a constituent. This is believed, says Cooke, to be the *suillus* eaten by the ancient Romans, who obtained it from Bithynia. This species is common in England, but as a rule does not seem to please the English palate. In Vienna and Hanover, cut into thin slices and dried, it is exposed for sale in every market. In Lorraine it is eaten under the name of Polish mushrooms. In the department of Gironde, in France, great quantities are preserved and sent annually to the Parisian markets, strung on thread and dried, as they are in Russia.

Large quantities of mushrooms are consumed throughout the world, but their general use we give under *Agaricus*. There are many species of *Boletus* which serve or may serve as food, collected in their wild state. In Australia the natives of Swan River Colony eat several species; two of the principal they call *numar* and *woorda*, and the latter Drummond thinks might be advantageously substituted in cultivation for the common mushroom, as it has the same flavor, and is much easier of digestion.

Among edible species are:—

B. æreus, Bull.—In Europe, edible according to Cordier.

B. æstivalis, Fr. (Syn. *Tubiporus æstivalis*, Paulet; *B. cepa*, Thou.)—This, according to Paulet, is among the most fragrant and delicious, as assuredly it is among the largest of the Boletus tribe (Mrs. Hussey). The flesh is firm, of a milky flavor when raw, and it is a more excellent species than *B. edulis*. It occurs in woodland pastures in Europe.

B. aurantiacus, Bull.—Said by Cordier to be edible.

B. badius, Fr.—Called edible by Cordier.

B. bovinus, Fr.—A fungus of heathery fir woods. It occurs in Europe, in the Carolinas (Curtis), and in California (Harkness & Moore). Cooke says the taste and smell is sweetish and agreeable. Krombholz, that it is much sought after in Europe as a dish, and is good when dried.

B. carinthiacus, Jacq.—Classed by Unger as edible.

B. castaneus, Fr.—Eaten in Europe, but Cooke says is of inferior flavor. It has a mild, pleasant taste when raw. Credited by Curtis to the Carolinas.

B. chrysenteron, Fr.—This species is said to afford very poor

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have changed color, will be found very agreeable boiled. Is eaten in France when young, says Cordier. Much inferior to *B. edulis*, says Cooke. Eaten by Curtis in North Carolina. Is found also in California.

B. subtomentosus, Fr.—Said to be very poor eating, and some authors have considered it injurious. Cordier says it is edible; Trattinneck, that it is eaten in Germany. Curtis catalogues it as edible in North Carolina.

B. versipellis, Fr. — Classed as edible by Curtis for North Carolina, and by Harkness & Moore for California.

Bovista.

More then one species of this fungus appear in the bazaars of India, as at Secunderabad and Rangoon (Cooke), and one species is commonly sold in the bazaars of the Deccan and Burma (Berkeley). They are commonly known as *puff-balls*, and are common in our fields, pastures, and woods.

Bovista nigrescens, Fr. — Said by Berkeley to be eatable when young, but apt to have an unpleasant taste when old. Cooke says it is eaten in the United States.

B. plumbea, Fr.—Easily known by its leaden hue when dry. Cooke says it is eaten in the United States, and is stated to furnish a very palatable dish. Cordier gives as synonyms, *Lycoperdon plumbeum*, Vitt., and L. *ardosiacum*, Bull., and says it is edible.

Clavaria.

Many of this genus of fungi afford excellent articles of food, but they are not much used in England, probably from the scarceness of the larger species (Berkeley). In the United States a large number are catalogued by Curtis as edible.

Clavaria amethystina, Bull., on the continent of Europe is preferred by some to all the other species, and is said to possess a very fine flavor (Cooke). Badham says simply, an edible fungus. Cordier says edible, and of a fine taste.

C. aurea, Schaeff.—Said by Cordier to be excellent eating. It is enumerated by Curtis as edible in the United States.

C. botrytis, Pers. — Edible and in common use in Carinthia according to Cordier. Cooke says common in the Vosges. Curtis mentions it as edible in the United States.

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C. stricta, Pers.—Edible, as Unger states.

C. subtilis, Curt.—Edible in the United States (Curtis).

C. tetragona, Curt.—Edible, according to Curtis, in the United States.

C. uliginea, Curt.—Edible in the United States (Curtis).

C. vermicularis, Berk. — Said by Berkeley to be extremely delicate when dressed.

C. vermiculata, Scop.—Called edible by Cordier.

Craterellus.

Craterellus clavatus, Fr. (Syn. *Gomphus truncatus*, Pers.)—A fungus classed by Cordier as edible.

C. cornucopioides, Pers. (Syn. *Peziza cornucopioides*, L.)—Stated by Cordier to be edible.

Cyttaria.

Cyttaria Berteroi, Berk.—Was seen by Darwin in Chili, and is eaten occasionally, but apparently not so good as *C. Darwinii* (Cooke).

C. Darwinii, Berk.—A globular bright yellow fungus of Terra del Fuego, found growing in vast numbers on the birch trees, and in its tough and mature state collected by the women and children to be eaten uncooked. It has a mucilaginous, slightly sweet taste, with a faint smell like that of mushrooms. With the exception of a few berries, chiefly of a dwarf arbutus, the natives eat no vegetable food besides this fungus (Darwin).

C. Gunnii, Berk.—Abounds in Tasmania, and is held in repute amongst the settlers for its esculent properties (Cooke).

Helvella.

Some few species of this genus of fungi are recorded as eaten.

Helvella Californica, H. & M.—Catalogued for California as edible by Harkness & Moore.

H. crispa, Fr. (Syn. *H. leucophæa*, Pers.; *H. Mitra*, Bull.)—Said by Cordier to be edible. Berkeley says esculent, and when well stewed forming an acceptable dish. Cooke says equal to the morel in taste. Badham says of an agreeable odor, and of a general resemblance to the morel in taste. Occurs in California, according to Harkness & Moore, and edible.

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looks like a large white mass of coral, and when young may be safely eaten (Moore).

H. Erinaceum, Bull.—Eaten in Germany and France (Cooke).

H. imbricatum, L. (Syn. *H. cervinum*, Pers.)—Called edible by Cordier. Mueller says it is a wholesome mushroom of delicious taste. Cooke says it is eaten in Germany, Austria, Switzerland, France, and elsewhere. It occurs on the ground in pine woods in Carolina, and is esculent.

H. infundibulum, Swartz. (Syn. *H. fusipes*, Pers.)—Classed as edible by Cordier.

H. lævigatum, Swartz. — Eaten in Alpine districts (Cooke). It is called edible in the United States by Curtis.

H. repandum, L.—Affords, says Berkeley, an excellent article of food if carefully dressed, and is scarcely exceeded in delicacy by any fungus. The general use made of this fungus throughout France, Italy, and Germany, leaves no doubt, says Roques, of its good qualities. Known in France as *eurchon*, *rignoche*, and *arresteron*. In the Vosges as *barbe de vache* and *pied de mouton*. The flesh is firm and white, rather hot to the taste when raw, but mild when cooked (Cooke). The smell like that of horseradish (Badham). Cordier says edible, and in common use in France. Occurs in California, and Moore says that stewed slowly it is excellent.

H. rufescens, Schaeff.—Called edible by Cordier. Mentioned by Curtis as one of the edible species of the United States.

H. subsquamosum, Batsch. (Syn. *H. badium*, Pers., *H. squamosum*, Bull.)—Called edible by Cordier. Mentioned, also, as edible, by Curtis, in the United States.

H. violaceus, Alb. et Schw.—Said by Cordier to be edible, yet little sought for food, notwithstanding its taste and agreeable odor.

Hygrophorus.

Few, if any, says Berkeley, are admitted to English kitchens, though no doubt some are wholesome.

Hygrophorus chrysodon, Curtis. — Enumerated for the United States as esculent by Curtis.

H. niveus, Fr.—Common in mossy pastures in England. When found large enough, may be eaten, says Cooke.

H. pratensis, Fr. — Perfectly wholesome, and is sometimes eaten in France, Germany, Bohemia, and Denmark (Cooke). It

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nd are to be compared to sweetbreads for the rich
inassisted flavor. More than one species appear
India, as at Secunderabad and Rangoon (Cooke).
losiacum, Bull. (Syn. *Bovista plumbea*, Pers.)—
: as edible.
—Badham says no fungus requires to be eaten so
ring as this; a few hours will destroy the compact-
n, and change the color. Berkeley says that when
is one of the best of fungi, if cut in slices and fried.
., Fr.—This puff-ball is, when well manipulated, an
tion to the breakfast table. It is especially esteemed
ke). *L. giganteum*, Batsch, is classed among the
of California by Harkness & Moore.

Marasmius.

us *oreades*, Fr., the Fairy-ring champignon, enjoys,
, a good reputation, but local. Though small, it is one
delicious of edible fungi (Cooke). Berkeley says one
y best edible fungi. It is pronounced esculent by Curtis
a, and in California by Harkness & Moore.
rodonius, Fr. — Consumed in Germany, Austria, and
untries of the continent of Europe, where, perhaps, its
lor has been one of its recommendations as an ingredient
s. It is called, in Germany, *lauchschwamme* and *hagyma*
Cooke). It is enumerated for South Carolina by Curtis.

Morchella.

morels occur in various parts of the world, but the greater
f those used in Britain come from Germany. In Cashmere
ge quantity is collected. They are much used by cooks to
r gravies, and dressed in various ways make an excellent dish.
Morchella bohemica. Kromb.—Eaten in Bohemia (Cooke).
M. Caroliniana, Bosc., of the Southern United States, is
ble (Cooke).
M. conica, Pers. — Eaten, according to Unger. It occurs in
alifornia (Harkness & Moore).
M. costata, Pers. — Less esteemed than the edible morel, but
limentary, and found in Italy (Cordier).
M. crassipes, Pers., the gigantic morel, is esculent (Cooke).
M. deliciosa, Fr.—Eaten in Java, and in Cashmere (Cooke).

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a America. It was eaten from early times
mentioned by Fontaneda: the *okeepenauk*,
as a man's head found by Hariot, eaten
e Roanoke, may also be compared. The
ives on James River, is enumerated by
by Schweinitz as observed by him in Caro-
ow as far North as 40° in peninsular New

ientions it in Virginia as eaten by the
of *tuckaho*, and of late years it is men-
ansas and Arkansas. Hanbury says it is
, and made into edible cakes which are
eets.
ffle which Mueller says occurs in China,
ince of Souchong, and its flavor is most

Paxillus.

.—Catalogued as edible in California by

igh very common in Europe, is not eaten,
r. Curtis with the esculent species of the

Peziza.

L. — Said by Badham to be an utterly
ng entirely for flavor upon the sauce in
is called esculent by Cordier and Cooke,

yn. *P. coccinea*, Bull.)—Classed as eat-

ed eatable by Cordier.
aten in the north of France (Cordier).
athered in Northamptonshire, England, as
Cooke).
-Eaten in France (Cordier).
yn. *P. stipata*, Bull.)—Eaten by the poor

species of remarkable beauty, is eatable

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the United States called edible by

Berkeley to afford a grateful food.
esculent in the United States.
', tastes like the best chestnut or fil-
en cooked, says Curtis. Is found in

ible qualities cannot be declared first
might as well think of eating saddle-
ore they have acquired the leathery
an occasional meal. In this stage
in some parts of Europe (Cooke).
citrinus, Pers.)—Collected in the
as a food, but its quality is inferior
ates Dr. Curtis considers its eating
e coveted.
ed to Naples, and is procured by
or fungus stone, a kind of tufa, in
ed (Cooke). It is cut into slices,
en beaten out with a flat board and

by Fries to be esculent. Cordier
ermany and in Sweden.

ACCUM.

habit sandy tracts in warm coun-

. *Scleroderma tinctorium*, Pers.)—
ly.

ULA.

are extremely acrid, while others
much esteemed on the continent
England.
ued as edible in the Carolinas
ss & Moore).
e to be by no means despised
placed it amongst species to be

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watering the ground, previously pre-
e parings had been steeped (Berkeley).
The truffle most commonly collected
r says it is *T. albidum*, Caesalp., and
the *T. cibarium* and *T. brumale*.
with *T. æstivum*, but is smaller and
ding to Mueller.
Unger to be edible.
Vinter truffle. Esculent (Cooke).
ommon truffle, or Black truffle of middle
ull grown it rarely exceeds the size of
)m two to ten inches under the ground
names for the truffle are, in French
)utch *aardnoot;* in Italian *tartufo nero*.
non of Dioscorides.
ıpies, says Figuier, the place of all
)e.
T. griseum, Pers.)—Cordier describes
ery fine. Cooke says, a truffle eaten
he Grey truffle is one of the most
it the Piedmontese truffle, the most
; abundantly in the mountains of
rmous price.
(Of France, Germany, and Italy.)—
ıffle of the Paris markets, is richly
rior in flavor to the common sort.
Syn. *T. cibarium*, Corda.) — Said
or and savor, and to be edible, but

Melanogaster variegatus, Tul.)—
s a substitute for truffles, under the
however, none of the delicate aroma
Cordier says it is edible, but not
atalogue it as an edible fungus of

erfezia Leonis, Tul.) — Not equal,
ım, though it has of late attracted
dance. Cordier says, eaten by the
as an esculent in Damascus.

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endron chrysanthum.
uropæa.
Americana.
alba.
minalis.
mascula.
dia argentea.
balsamea, *var.* candicans.
tremula.
tremuloides.
milis.
a conspicua.
ia viridissima.
ia Fortunei.
montana.
campestris.
tanoides.
eda Japonica.
ia suspensa
ptolæpis.
Benzoin.
grandidentata.
dilatata.
ida, *var.* occidentalis.
ra calyculata.
Gale.
stis.
a.
gilis.
mericana.
brum.
triloba.
ia Soulangeana.
chier Canadensis.
cyparis (Retinospora) obtusa.
ccharinum.
a cærulea.
a ciliata.
ndida.
lomestica.

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ersica.
omestica.
rmeniaca.
alustre.
tifolium.
ymifolium.
cærulea.
erasus (Double, White and Pink).
ifolium.
rulgaris.
liciosus.
os kerrioides.
ponica.
s pubens.
runifolia.
llosa.
glabra.
nadensis.
omestica (Double Plum).
Orixa.
nsylvanicum.
orida (bracts opening).
coccinea.
Gordoni.
allii.
a Japonica.
dibertiana.
matum.
rdmanniana.
elsa.
Hippocastanum.
Weeping Cherry).
Sinensis.
inerea.
tinctoria.
lvestris.
phalonica.
ra.
coquiana.
nksiana.

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um.
osbati.
inata.
a fraxinifolia.
Duanensis.
lava.
occidentalis.
acuminata.
cordata.
Fraseri.
distichophylla.
im buxifolium.
ersica, *var.* laciniata.
americana.
da.
ulgaris.
aricum, *var.* Ginnala.
a.
cina.
igra.
dron calendulaceum.
Oxycantha (Single and Double, Red and
e.)
lobata.
Umbrella.
Opulus.
dron ponticum.
dron (Azalea) mollis.
dron (garden varieties.)
lantanoides.
as sorbifolia.
gens.
vulgare.
lba.
labra.
ia.
ia, *var.* glandulosa.
osissima.
tana.
ovatum.

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coccinea.
taricum.
foliata.
atum.
parviflora.
tiflora.
n stamineum.
cicodendron.
ngustifolia.
hus hirsutus.
umbellatus.
parviflora.
adus Canadensis.
inus.
ndron brachycarpum.
aponica.
, *var.* Thompsoni.
hus coronarius, *var.* variegatus.
s tinctoria.
ivalis.
Amurensis.
n erythrocarpum.
a globularis.
hirsuta.
flava.
caprifolium.
a dentatum.
lba,
aniculata.
oulifolia.
Gallica.
a acerifolium.
a polifolia.
ngustifolia, *var.* rubra.
cia dumosa.
Japonica.
tetrandra.
orusca.
ia Shallon.
aleppica.

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ea vulgaris, *var.* Americana.
lendron viscosum.
salicifolia.
tis Amurensis.
sericea.
tigera.
is crispa.
us Ebulus.
Douglasii.
ariæfolia.
callosa, *var.* alba (second flowering).
is angustifolia.
Kæmpferi.
igea arborescens.
igea radiata.
ea pumila.
a paradoxa.
phænicolasius.
a bignonioides.
mericana.
labra.
labra, *var.* laciniata.
ia Sinensis (second flowering).
a radicans.
iteria paniculata.
nacrostachya.
ix Chinensis.
cum Kalmianum.
ia curvifolia.
lævigata.
cum patulum.
inthus occidentalis.
is Flammula.
cum aureum.
cum proliferum.
onitifolia.
terophylla.
millifolium.
ia canescens.
agans.

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tts Horticultural Society.

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	Loring, John A.,	"
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Minton, Peter J., Forest Hills.
Morandi, Francis, Malden.
Morris, Thomas D., Boston.
Morrison, Hugh, Bay View.
Morton, James H., Boston.
Murray, Daniel D., Brookline.
Muzzey, Rev. A. B., Cambridge.

Nightingale, Crawford, Dorchester.
Norton, Michael H., Boston.
Norton, Patrick, "
Noyes, George N., Auburndale.
Nugent, James, Boston.

O'Brien, James, Jamaica Plain.
Oldreive, Richard, Newton.
Olney, Richard, West Roxbury.
Owen, John, Cambridge.

Park, William D., Boston.
Parker, John, "
Parsons, William, "
Patterson, James, Cambridge.
Payson, Samuel R., Boston.
Phillips, Nathaniel, Dorchester.
Pickering, Mrs. E. C., Cambridge.
Plimpton, W. P., West Newton.
Power, Charles J., S. Framingham.
Pratt, Mrs. Mary L., Hingham.
Pratt, Samuel, Chelsea.
Prince, Thomas, Boston.
Putnam, Charles A., Salem.
Putnam, Henry W., "

Randall, Macey, Sharon.
Ranlett, S. A., Melrose.
Richards, John S., Brookline.
Richardson, E. P., Lawrence.
Richardson, Horace, Framingham.

Ridler, Charles E., Kingston.
Roberts, Edward, Hyde Park.
Rogers, John F., Cambridge.
Ross, Charles W., Newtonville.
Russell, George, Boston.

Safford, Fred'k M., Dorchester.
Saunders, Miss M. T., Salem.
Saville, George, Quincy.
Sawtell, J. M., Fitchburg.
Schlegel, Adam, Boston.
Schmitt, Georg A., Brookline.
Scott, A. E., Lexington.
Scott, George H., Allston.
Scudder, Samuel H., Cambridge.
Shattuck, F. R., Boston.
Shedd, Abraham B., Lexington.
Shedd, Arthur B., "
Shepherd, C. W., West Newton.
Sheppard, Edwin, Lowell.
Sherman, Japhet, Medford.
Simpson, Michael H., Saxonville.
Sleeper, John S., Boston.
Snow, Eugene A., Melrose.
Southworth, Edward, Quincy.
Spooner, William H., Jamaica Plain.
Sprague, Charles J., Boston.
Squire, John P., Arlington.
Starbird, Louis D., Malden.
Stevenson, Hamilton, Woburn.
Stone, Eliphalet, Dedham.
Stone, Samuel G., Charlestown.
Storer, Charles, Natick.
Story, Miss Sarah W., Brighton.
Strahan, Thomas, Chelsea.
Sullivan, J. L. D., Somerville.
Swan, Charles W., Boston.

Tailby, Joseph, Wellesley.
Talbot, Josiah W., Norwood.
Tapper, Thomas, Canton.
Tobey, Miss M. B., Brookline.
Todd, Jacob, Boston.
Torrey, Bradford, "
Trautman, Martin, Boston.
Turner, Nathaniel W., "

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ıont.	White, Nelson B.,	Norwood.
	Whitney, Joel,	Winchester.
York.	Whiton, Starkes,	Hingham Centre.
ıgo, Ill.	Wilde, Hiram,	Randolph.
ın.	Williams, Dudley,	Jamaica Plain.
	Wilmarth, H. D.,	" "
ea.	Wilson, B. Osgood,	Watertown.
ın.	Wilson, George W.,	Malden.
rville.	Wiswall, Henry M.,	Watertown.
ın.	Withington, Henry H.,	Jamaica Plain.
ı.	Wolcott, Mrs. J.W.,	Boston.
xington.	Wood, Mrs. Anna D.,	West Newton.
ridge.	Wood, Miss C. S.,	" "
n.	Wood, E. W.,	" "
ers.	Woodford, Jos. H.,	Newton.
ridgeport.	Zirngiebel, Denys,	Needham.
rd.		

IE CONSTITUTION AND BY-LAWS.

N XXVI. — Life Members.

ollars shall constitute a Life Membership, and l future assessments; and any member having may become a Life Member by the payment of reto.

Admission Fee and Annual Assessment.

r, before he receives his Diploma, or exercises hall pay the sum of ten dollars as an admission wards to an annual assessment of two dollars.

— Discontinuance of Membership.

lect for the space of two years to pay his annual member of the Society, and the Treasurer shall of Members.

embers is particularly called to Section XXIX.

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HONORARY MEMBERS.

A * denotes the member deceased. Correspondents of the Society and others will confer a favor by communicating to the Secretary information of the decease, change of residence, etc., of Honorary or Corresponding Members.

*Benjamin Abbott, LL. D., Exeter, N. H.
*John Abbott, Brunswick, Me.
*Hon. John Quincy Adams, LL. D., late President of the United States, Quincy.
*Prof. Louis Agassiz, Cambridge.
*William T. Aiton, late Curator of the Royal Gardens, Kew, England.
Thomas Allen, Ex-President of the St. Louis Horticultural Society, St. Louis, Mo., and Pittsfield, Mass.
*Hon. Samuel Appleton, Boston.
*Hon. James Arnold, New Bedford.
*Edward Nathaniel Bancroft, M. D., late President of the Horticultural and Agricultural Society of Jamaica.
*Hon. Philip P. Barbour, Virginia.
*Don Angel Calderon de la Barca, late Spanish Minister at Washington.
*Robert Barclay, Bury Hill, Dorking, Surrey, England.
*James Beekman, New York.
*L'Abbe Berlèse, Paris.
*Nicholas Biddle, Philadelphia.
*Dr. Jacob Bigelow, Boston.
*Mrs. Lucy Bigelow, Medford.
*Le Chevalier Soulange Bodin, late Secrétaire Général de la Société d'Horticulture de Paris.
Hon. George S. Boutwell, Groton.
*Josiah Bradlee, Boston.
*Hon. George N. Briggs, Pittsfield.
*Hon. James Buchanan, late President of the United States, Lancaster, Penn.
*Jesse Buel, late President of the Albany Horticultural Society, Albany, N. Y.
*Hon. Edmund Burke, late Commissioner of Patents, Washington, D. C.
*Augustin Pyramus de Candolle, Geneva.
Hon. Horace Capron, Ex-U. S Commissioner of Agriculture, Washington, D. C.
*Commodore Isaac Chauncey, U. S. Navy, Brooklyn, N. Y.

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hief Justice of New Brunswick, St. John.
lphia.
ington, Ky.
hicago, Ill.
FIN, Bart., England.
President of the Pennsylvania Horticultural Society,

rson, N. J.
it of the Pennsylvania Horticultural Society, Phila-

on, N. J.
rtown.
te U. S. Consul, Fayal, Azores.
D., Boston.
ndon.
SCAMMEL DEARBORN, Roxbury.
-President of the Horticultural Society of London.
on.
U. S. Navy.
L. D., Charleston, S. C.
I, late Commissioner of Patents, Washington, D C.
, late Secretary of the King's County Agricultural
N. B.
LL. D., Boston.
Vermont.
or of the Imperial Botanic Garden, St. Petersburg.
late President of the United States, Buffalo, N. Y.
Professor of Botany at the Imperial Botanic
burg.
UYSEN, late President of the American Agricul-
Brunswick, New Jersey.
Vice-President of the Horticultural Society,

hia.
ROUGH, Talbot County, Maryland.
Orrington, Maine.
am.
sident of the Domestic Horticultural Society,

lies Hope, N. J.
RRISON, late President of the United States,

ietta, O.
dent of the Glasgow Horticultural Society.
President of the New York Horticultural

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*Lewis Hunt, Huntsburg, O.
*Joseph R. Ingersoll, late President of the Pennsylvania Horticultural Society, Philadelphia.
*Gen. Andrew Jackson, late President of the United States, Nashville, Tenn.
*Mrs. Martha Johonnot, Salem.
*Jared Potter Kirtland, M. D., LL. D., East Rockport, O.
*Thomas Andrew Knight, late President of the Horticultural Society of London.
*Gen. La Fayette, La Grange, France.
*Le Comte De Lasteyrie, late Vice-President of the Horticultural Society of Paris.
L. A. H. Latour, M. P., 1396 St. Catherine street, Montreal, Canada.
*Baron Justus Liebig, Giessen, Germany.
*Prof. John Lindley, late Secretary of the Horticultural Society of London.
Franklin Litchfield, U. S. Consul at Puerto Cabello, Venezuela.
*Joshua Longstreth, Philadelphia.
*Nicholas Longworth, Cincinnati.
*Jacob Lorillard, late President of the New York Horticultural Society.
*John C. Loudon, London.
*Hon. John A. Lowell, Boston.
*Baron Charles Ferdinand Henry Von Ludwig, late Vice-President of the South African Literary and Scientific Institution, Cape Town, Cape of Good Hope.
*Hon. Theodore Lyman, Brookline.
Col. Theodore Lyman, Brookline.
*Hon. James Madison, late President of the United States, Montpelier, Va.
*Mrs. Charlotte Marryatt, Wimbledon, near London.
Joseph Maxwell, Rio Janeiro.
D. Smith McCauley, U. S. Consul-General, Tripoli.
*Hon. Isaac McKim, late President of the Horticultural Society of Maryland, Baltimore.
Rev. James H. Means, Dorchester, Mass.
*James Mease, M. D., Philadelphia.
*Lewis John Mentens, Brussels, Belgium.
*Hon. Charles F. Mercer, Virginia.
*François André Michaux, Paris.
Donald G. Mitchell, New Haven, Conn.
*Samuel L. Mitchill, M. D., LL. D., New York.
*Hon. James Monroe, late President of the United States, Oak Hill, Va.
*Alfred S. Monson, M. D., late President of the New Haven Horticultural Society, New Haven, Conn.
*Hon. A. N. Morin, Montreal, Canada.
*Théodore Mosselmann, Antwerp, Belgium.
Baron R. Von Osten Sacken, Heidelberg, Germany.
Baron Ottenfels, Austrian Minister to the Ottoman Porte.
John Palmer, Calcutta.

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. D., Cambridge.
ushing, N. Y.
ns, Brookline.
or in the Institut Horticole de Fromont.
ate President of the United States, Nashville, Tenn.
welton, Pa.
phia.
ing, N. Y.
D. D., Roxbury.
ate President of the Albany and Rensselaer Horti-
Albany, N. Y.
of Roseberry, late President of the Caledonian Horti-

cretary of the Horticultural Society of London.
A, Havana, Cuba.
ENT, Fishkill, N. Y.
botsford, Scotland.
rator of the Botanic Garden, Liverpool, England.
Editor of the American Farmer, Baltimore, Md.
ton.
President of the Rhode Island Horticultural Society.
, Boston.
o, Virginia.
late President of the American Institute, N. Y.
, late President of the United States, Baton Rouge,

, Plymouth.
Springs, N. Y.
f. D., Wilmington, Del.
York.
Paris.
DE THURY, late President of the Horticultural

President of the Horticultural Society of Rouen,

ate President of the Horticultural Society, Wash-

resident of the United States, Williamsburg, Va.
ingford, England.
EN, late President of the United States, Kinder-

f. D., New York.
NS, M. D., Brussels, Belgium.
SELAER, Albany, N. Y.
lbany, N. Y.
D., Hallowell, Me.

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*Rev. N. Villeneuve, Montreal, Canada.
*Pierre Phillippe André Vilmorin, Paris.
*James Wadsworth, Geneseo, N. Y.
*Nathaniel Wallich, M. D., late Curator of the Botanic Garden, Calcutta.
*Malthus A. Ward, M. D., late Professor in Franklin College, Athens, Ga.
*Hon. Daniel Webster, Marshfield.
*Hon. John Welles, Boston.
*Jeremiah Wilkinson, Cumberland, R. I.
Hon. Robert C. Winthrop, Boston.
*Frederick Wolcott, Litchfield, Conn.
*Ashton Yates, Liverpool, England.
*Lawrence Young, late President of the Kentucky Horticultural Society, Louisville.

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ESPONDING MEMBERS.

• denotes the members deceased.

wn, D. C.
ıR, U. S. Vice-Consul at Maldonado, Banda Oriental

ıt, France.
esident of the Nebraska State Horticultural Society,

ı.
ıSON, South Boston.
U. S. Consul at Leghorn, Italy.
L, late U. S. Consul at London, Brookline.
ıologist, Middlefield, Conn.
U. S. Consul at Paris.
ıan of the General Fruit Committee of the American
iety, Rochester, N. Y.
olwiller, Alsace.
ANN, Rahway, N. J.
ANN, Bolwiller, Alsace.
ılwiller, Alsace.
erine's, Ontario.
ing, Michigan.
n, N. Y.
College, Isleworth, near London.
HER, Peekskill, N. Y.
ANS, Rome, Ga.
Augusta, Ga.
Secretary of the Société Van Mons, Fleurus, Bel-

ulaski, Oswego Co., N. Y.
I. D., Philadelphia.
S. Commissioner to the Sandwich Islands, Beverly.
ines, Ga.
ast Florida.
x-President of the Illinois State Horticultural
, Ill.
ıia.
l, Conn.
England.

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ALE, Cambridge.
J. S. Consul at Rio Janeiro.
ridge.
dent of the Worcester County Horticultural Society,

New York.
Corresponding Secretary of the New York Horti-
New York.
ON, late President of the Fruit Growers' Association
Show Society of Nova Scotia, Canard.
HARRIS, D. D., Dorchester.
RIS, M. D., Cambridge.
of the Caledonian Horticultural Society.
S. Consul at Gibraltar, Philadelphia.
of the Gardener's Magazine, London.
re.
ditor of the Journal of Horticulture, London.
t.
t.
rer and Secretary of the Cape of Good Hope
ty, Cape Town, Africa.
z, Caunton Manor, Newark, Nottinghamshire,

England.
'. S. I., Director of the Royal Botanic Garden,

ster, Penn.
Cambridge.
o, Ill.
r, late President of the Kansas State Horticul-
nworth.
Md.
nio.
or of Horticulture in the University of the State
a.
Union College, Schenectady, N. Y.
lge.
rchester.
ugh.
, Fort Gaines, Ga.
Boston.
ar Paris, France.
sponding Secretary of the Pennsylvania Horti-
ol, Pa.
ama.
State Entomologist, Geneva, Ill.
of the Norfolk Horticultural and Pomological

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ERS, U. S. Navy.
D., Athens, Greece.
elphia.
oxbury.
market, N. J.
SELL, Salem.
epartment of Agriculture, Washington, D. C.
U. S. Consul-General at Havana, Cuba.
ork.
ngton, N. J.
lington, N. J.
Editor of the American Farmer, Baltimore, Md.
antown, Penn.
U. S. Consul at Gibraltar.
rt William, Nova Scotia.
Leavenworth, Kansas.
STEVENS, U. S. Navy, Middletown, Conn.
WAY, British Secretary of Legation at Naples, Italy.
tinez, Cal.
Rochester, N. Y.
ton, China.
aria, S. C.

, late Director of the Botanic Garden at Naples,

HEMACHER, Boston.
swick, near London.
New York.
R, Editor of the American Agriculturist, New York.
ardsville, Illinois.
INEO, Director of the Botanic Garden at Palermo.
of the Cultivator, Albany, N. Y.
d, England.
ent, Belgium.
, Paris.
Secretary of the Horticultural Society, Antwerp,

D., President of the Ohio State Horticultural So-
O.
app Hill, near Woking, Surrey, England.
litor of the Prairie Farmer, Chicago, Ill.
LIAMS, Holloway, London, N.
dinburgh University, Scotland.
York.
Bath, Me.
Portland, Me.
HROP, Charleston, S. C.

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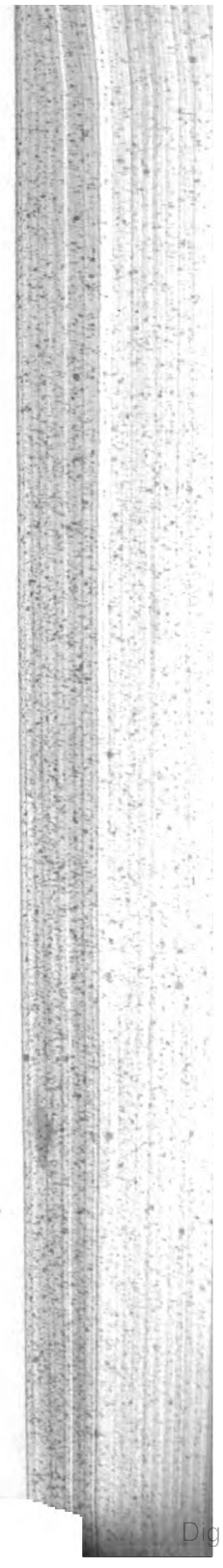

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ACTIONS

OF THE

Horticultural Society,

E YEAR 1882.

ART I.

BOSTON:
FOR THE SOCIETY.
1882.

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ʌCTIONS

THE

ɔrticultural Society,

ɛ YEAR 1882.

ʌRT I.

OSTON:
'OR THE SOCIETY.
1882.

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tion and Discussion take this oppor-
ve herctofore stated, that the Society
for the certainty of the statements,
s, or the accuracy of the nomenclature,
ons now or before published, all of
t or judgment of the respective writers
lertaking only to present these papers
substance of them, correctly. The
for an Essay is not to be understood
ttee approve it in every particular, but
lculated, *on the whole*, to promote the
re.

BENJAMIN G. SMITH, *Chairman.*

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RANSACTIONS

OF THE

ts Horticultural Society.

USINESS MEETING.

SATURDAY, January 7, 1882.

ated meeting was holden at 11 o'clock,
e chair.
ered his annual address, as follows: —

RESS OF PRESIDENT HAYES.

of the Massachusetts Horticultural Society: —

vocations in life we come to this meeting,
mmon interest in the charming and instruc-
ture. We feel that it is both pleasant and
y the developments of nature; that it
l, moral, and religious character of man to
tion as members of this Society our work
our progress made more rapid and sure;
ited by the experience of his associates;
our tastes, in close sympathy, we are cul-
ns with each other, thereby rendering our
proving, and life more agreeable. At this
me extend to you the most cordial greet-
your continued prosperity and happiness.
work of the Society for the past year we

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e and confusion attending the business opera-
y, or by the occupants of the halls, who, not
ey do now, a private office for their use,
ransact much of their business in our li-
reat annoyance of those who were pursuing in it
nvestigations. Convenient offices have been
asurer and Superintendent of the building and
e halls, outside the library rooms. Other im-
ts have been made in the building for the
ience of the members of the Society and our

ng thus provided for its immediate wants, I
on in the further improvement and enlarge-
accommodations of the building, especially
ne halls, by which the revenue of the Society
ased without any expenditure of the Society's
ly be done through the labors and liberality
l others interested in our work, and I trust
y be procured and methods devised for per-
s, which will add several thousands of dollars
ne, and increase the value and architectural
re.

s of our Society and the care of our building
last faithfully attended to by our present
e. As usual heretofore, the Treasurer is
eport to the next meeting, the returns from
Cemetery Corporation not being received in
o make up his accounts for presentation at
, however, that we shall receive an income of
dred dollars from Mount Auburn on account
ations, being about one thousand dollars less
r. It is to be hoped that we may receive a
years from this source.

er paying the large amounts we have ex-
improvements of the building, both outside
arges attending the care and administration
ell as all other claims against the Society,
commencement of this year a balance of

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)leted the History of the Society, and been able to
ıblication of its Transactions nearly to the present
d time during the coming year to devise and carry
neasures for better opening to all, the literary and
itions of the Society which are under his charge.
importance that the Society should husband its
: its revenue expended with discretion; otherwise
ıplish what we should to promote in the best man-
To this end it is desirable that the committees, in
and gratuities, should strictly adhere to the
nd give nothing except for that which is really
what is presented for a prize is not superior in
ceive no recognition, though it may be the best
ed. A high standard of excellence should be
chibitor; otherwise the rewards of the Society
'. In this way only can the funds entrusted to
judiciously expended.

e of the exhibition for the year just closed was
ich never was surpassed in the exhibitions of our
he season was not propitious for many of the
vely flower, yet, in consequence of the great
st efforts of all were called out, and the result
iful collections were presented on our tables.
xcellence of this exhibition was, in a great
e stimulus of special prizes of silver cups being
which was defrayed by subscriptions of several
ther special prizes were offered by the gen-
Society; and it is to be hoped that such prizes
year, not only for roses, but for many other
ture.

en: In the retrospect of the year, while we are
rogress of the Society in its career of useful-
more evident than now that it demands of its
t efforts to forward its interests. Its stand-
and ever continuing advancement in the art
ture is expected of it. We must have an
meet the Society's proper demands. We
ns to supply our wants, but we must unit-

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. . . . .	$3,050 00
ːe, for the purchase of rs, binding of books, and	
e Committee . . .	$200 00
cation and Discussion .	$150 00
nmittee of Arrangements	$250 00

l that the Executive Committee had
e, Treasurer of the Society and Super-
and Robert Manning, Secretary and

ARGENT, of Lenox, and
WEST, of Dorchester.
by the Executive Committee, were on
mbers of the Society.

January 14.

FOR DISCUSSION.

TAL ARBORICULTURE.

d to make a few remarks on the general
r than the mention of particular trees.
m of the essayist on this subject,[1] but
ıd up upon the subject, consulted good
ːnt credit to the pioneers of horticulture
tention to arboriculture. Mr. Hovey
abstract of Professor Robinson's paper,
thought needed a reply, and said John
article on native trees similar to Profes-
een years later the speaker visited Mr.
w the fine specimens of native forest
ed. General Dearborn wrote on the
nd Farmer," year after year, and sowed

[1] tions, Part II., 1881, page 155.

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hem, and began to direct attention in the "Mag-
ture," which he then edited, to the importance of
eautiful shrubs, and the result is seen in the
Hunnewell, President Hayes, and others, to-day.

Horner spoke of the common chestnut as suc-
tivation. She knew several instances where they
ully transplanted from the woods. It grows rap-
of chestnuts on one side, and locusts on the
l in Georgetown, in 1735, by the first clergyman
of the chestnuts, now standing, measures thirteen
s in circumference at the smallest point of the
broken by storms is still stately.

mentioned a case where one of the most valua-
ter was destroyed because a street happened to
t of it. The street was opened on condition
be preserved; but the next proprietor destroyed
spoke of the deplorable manner in which trees
lated by unskilful persons, who call it pruning;
ering. There is on a hill-side in Dorchester a
'eet in circumference at the ground and four-
ches at four feet from the ground. A limb
containing a cord of wood, was blown from it
ere are in the same town two other fine oaks,
h he trembles; they are all pasture oaks. The
ety should be exerted to save such trees from

g had noticed that the Scotch elms in the nurs-
led by canker-worms, while the English and
same rows are. The European linden is
ut not in its native country, while the Ameri-
n them here. He thought that, as a general
less troubled by insects here than foreign
enemies have more to do with their failure
of climate.

as surprised to hear how much could be
this country in former days, and he agreed
is greatly to the credit of early horticultur-
lone. Yet Professor Robinson's position

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spoke of the tendency to run after
hile giving all honor to those who are
nd beautiful trees, we should not for-
culture, or the principles instilled by
le. They corresponded with François
of the "North American Sylva," and
e Massachusetts Society for Promoting
gement of the growth of American trees
advance of their time, and had written
the planting of Lyman and Gore at
ees except a few European elms and
ing as examples of estates in the mod-
iel Amory, in 1800, and Eben Preble,
wards owned by John P. Cushing, and
planted trees on the principles of mod-
Afterwards there was an interval which
obinson to suppose that arboriculture
one of the first things to be attended
old, of New Bedford, was practically
and landscape gardening, and hence
on of arboriculture, which he entrusted
o applied it to the establishment of the

of a magnificent elm which forms one
landscape near his house, in Concord.
et, and spread one hundred and twenty-
e at a foot from the ground twenty-five
part of the trunk sixteen feet. The
linary; at fifteen or sixteen feet from
leven feet, one ten feet eight inches,
t feet in circumference, and they hold

is a great opening for officers of rail-
ultivate a taste for trees. Much can
small expense. In Europe there are
ailroad stations, and at many of the
to preserve a view and not to cut off
d kept at a height of about fifteen feet.

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an elm tree at Lancaster as the finest
four feet from the ground it measures
erence.

e that on the next Saturday there would
st Method of Cultivating Pears and Ap-
liam C. Strong, and continued by Mar-
Wood.

ESS MEETING.

SATURDAY, January 14, 1882.

the Society was holden at 11 o'clock,
ir. No business being brought before

January 21.

FOR DISCUSSION.

eading of the following paper: —

ND PEAR CULTURE.

. STRONG, Newton Highlands.

equest of your Committee to open the
eme as the Culture of the Apple and
y to leave the methods of culture to
ıd who have had an extended ex-
ıyself to a few general observations
he similarity between these, our two
fruits, would naturally incline us to
ir relative merits. Yet, though they
and though certain varieties of each
se resemblance with the other species,
ıct characteristics, their uses remain

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such as the suitableness of the pear
cleanliness and early productiveness,
of suburban residents. And as it is
ɔmparatively transient when in con-
ɔre desirable that it should be a home
ontrary, can be kept, stored, and
fety, and hence can always be bought
ɪdeed, that it seems cheaper to buy a
to hire help to care for the amount
y. Then, again, the apple is so slow
we are hoping our spare land will be
before an apple orchard would be in
asons are local, and do not touch the
ɪleness of apple culture in Massachu-
ɪeeds to be frequently repeated, that
ls of acres of hill-slopes capable of
ɜults in apple culture to be found on
ɹlity into account, we should say this
We seem to have the desired medium
ɔld, as to poverty and over-richness of
ɜss of air in autumn, to secure the
ality of this fruit. If we, then, admit
'or producing this fruit, which is ob-
family, so important that the supply
emand, it surely follows without say-
ɔrofitable.

ɜee so few examples of thrifty young
l-sides? Why so many old orchards
How did it happen that in our last
were told that raising apples did not
, packing free? Surely, in the very
ɜstions can be answered. We can
dy, and as good as anybody, a fruit
ɪen it follows that it is our own fault
remunerating rate.

ɪt trouble is that our people want a
ɜlihood. No doubt the apple is the
ɪake fair returns. It requires consid-

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ain the homestead and invest in trees
life. Apple orcharding is a far more
estment than the cultivation of any
portance of attracting capital in this
o doubt that the taxable value of our
creased if some policy were adopted to
le orchards. With the increased facil-
uld be no danger of an over-supply of
ed to a minimum there will be no limit

Consider, also, that our own popula-
ive years. It is high time the trees
population of one hundred millions.
s. Here we come upon a sore evil, and a
ient to progress in planting. It is bad
a new candidates for favor among the
asts only for one season in the case of
n plough your patch and stand waiting
ith each succeeding wonder. But it is
of the apple and the pear, and when
is awkward to make a change, and the
it becomes a fixture. Thus the most
uated, generation after generation, oc-
cetters and dragging down the standard
mmense injury has been done to pear
ie dissemination of second, and third,
ich come to be only a vexation and a
What a revulsion of feeling must come
the luxuriant growth of the Buffum
finds himself loaded with a fruit which
ng on his hands, though he would have
e could have found any one innocent
a serious misfortune that the satisfac-
argely counterbalanced by the incubus
sell, but which we think are too good
re forced to admit that the nurserymen
extent for this state of things. For one
ilty. "I do remember my faults this
ontributed my share in swelling the list

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ceps? For example: we may at the
Rose among potatoes, the Crawford's
tt of pears, the Baldwin of apples,
though we may wince as we add this
re not satisfied with some of the rest.
. All honor to every effort to obtain
ne appreciates them more than I.
in a fair way to displace the Concord
we can do good service in the opposite
blic against the thousand and one com-
ot satisfy. While we confidently look
nents in varieties, still we are not to
umbers of kinds of decided superiority,
ace these prominently in front, remem-
' prove all things, and hold fast that

Discussion.

r expressed admiration of Mr. Strong's
of fruits while embracing all the excel-
ve all been trying to do for many years.
her way to ascertain the most valuable
rything that comes up, and cast away
ad pursued this course until it had cost
sand dollars, and nine out of ten of the
lesirable. The late A. J. Downing re-
ars ago, on the mania for pears in the
ery new variety was seized upon and
of. As one result of this enthusiasm we
many other valuable acquisitions, two
tt and Beurre d'Anjou, which will grow
grow.

in improving the apple, or in encouraging
few years there has grown up a great
; of apples, and the exportation of pears
npshire, in 1880, sent 250,000 barrels of
They can be grown at a profit on our hill-
d is worth twenty-five cents a square foot.

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; had so much. Complaints are made
)ts at the core ; but he had found it keep
r pear. They must be gathered early,
;ust. In 1867 Mr. Clapp had gathered
ust, some of which the speaker carried
ican Pomological Society at St. Louis,
Dr. Thurber and others, on the 13th of
nd. It is the largest and handsomest
arly, is all that can be asked for.

which it is very important to secure,—
e, robust trees. Among these is the
h is not generally understood ; but the
; more profitable than any other variety
d Merriam. One of them has borne
on ; last year it bore fourteen bushels.
and then they will color finely. Speci-
onounced by the late A. J. Downing

The speaker has a Bartlett and a
standing side by side, and the latter is
ze of the former, and will bear fifteen
vill not give five. They bear as much
ally every year ; and the fruit when sent
; million want. The Beurre Hardy,
yenne Boussock, are all strong growers
has trees of all, twenty-five feet high.
)oyenne Boussocks in August, so as to
force to form fruit buds for the next
mne is nearly as large and handsome
Brandywine makes as large and fine a
arris, one of the Messrs. Clapp's seed-
quality. The Admiral Farragut and
irtleff's seedlings, though not of the
)ugh, and the fruit is of large size, and
Russet pears take the eye in the market,
ffum is a little russety ; the Brandywine,
ine have more russet. The Merriam is
ts quality to the highest extent it must
ket it may be left on the tree longer.

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· the trees blighted more than any other

hile Mr. Clapp had lost nearly all his
had himself lost none of that variety.
srs Clapp's experience was that of many
worst feature of pear growing, as a mat-
v two or three pear orchards, of several
een ruined by blight. Few Bartlett,
trees are affected by blight; the Vicar of
nd Clapp's Favorite are badly affected.
ormer class. The Bartlett fills the mar-
e growers get as much fruit as from any
with less thinning than other varieties;
early — before fully grown — they will
1 crop. Large growers average from one
l for this variety; the latter price for the
ole to more uses than almost any other
st valuable for canning: and the use of
lmost universal. Ex-President Stickney
Bartletts increases faster than the supply.
said Mr. Wood, Mr. Wilder has men-
kinds; but newer ones are taking their
ld not recommend either the Buffum or
e could not get an average of over seven-
for them, when Bartletts would average
cents. The Beurre Bosc is one of the most
brought from two dollars and a half to
iarters per bushel. A ten-year-old tree
y seasons the leaves sometimes fall; but
s does well. A lady who always showed
o have the leaves fall, but mulched and
n had no more trouble. The Dana's Hovey
small, but that is the only objection to it.
tion for market, for no other variety will
; they brought five dollars per bushel last
its season is of so fine quality for dessert.
it is considerable work to thin the crop;
s with the Seckel, and if treated like the

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em three times as many peach trees,
three years, and die before the apple
have reports of apple crops in eight
ing. It has not been the practice to
e. The land is not lost if you plant
egetables can be grown between the
t apple trees only along the margins of
namental and agreeable, and, while it
ves better fruit than a solid orchard.
instance where a new road was made
below the road the trees took a new
can get more apples and money from
ar" than we do now. In 1874 Mr.
es with the Hubbardston Nonsuch; in
his boys picked off the blossoms; in
on; in 1880 they had comparatively
they gave five bushels of apples each,
he scions were taken did not show a

orchard in Marshfield from which the
ns for three successive years, which so
n the odd year that he never had to

hat the essayist had given us a very
had not adhered very closely to the
aker thought the great subject should
ls. He was glad that Mr. Strong had
ything and hold fast to that which is
take twenty-four or forty-eight varie-
same number of pears. Mr. Hovey
rieties of roses and dahlias, and the
s a different pear on his table every
in the market. We must consider the
hould we ever have arrived at a knowl-
u, Doyenne du Comice, and Dana's
tent trials of every new fruit? The
ed in 1854, and now its merits are just
is most beautiful, and the leaf is as

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last the market-men offered him two
crop of Beurre d'Anjous, which is
years when there is not such a super-

l to continue the discussion on the

rman of the Committee appointed at
ıte and record all facts in regard to
ze, age, beauty, or historical associa-
ıat all who are acquainted with such
regard to them, would communicate
ıs voted to add two members to the
)pointed Leander Wetherell and John

ESS MEETING.

SATURDAY, January 21, 1882.

the Society was holden at 11 o'clock,
President, in the chair. No business
eting, it
anuary 28th.

FOR DISCUSSION.

e and Pear Culture," continued from
ng paper was read: —

ARIETIES OF PEARS.

W. TALBOT, Norwood.

ted we like to know *how* it was done.
inly need to understand the process in
plies to the improvement and introduc-
ırs. Van Mons, of Belgium, obtained
and very valuable varieties of pears;

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sed the last of his first lot of seedlings to
the hand of Col. Eliphalet Stone, saying
put out several very valuable kinds, and
g these better than any I have fruited."
he Fruit Committee, with Col. Wilder and
whose judgment everybody respects, —
mistake in their decision, the Seckel and
a noble compeer in the President Clark,
ident, two more of Dana's seedlings.
e success of Mr. Dana and Mr. Clapp
s theory, we shall do well to have the
upon the subject. It is now almost
t good culture and favorable circum-
nprove the size and quality of natural
essentially change its peculiar charac-
true that wild fruit, growing isolated,
racter in successive generations. The
ods of plant growth confirm this view.
president of our Agricultural College,
hich Agassiz pronounced a revelation to
k our college among the scientific insti-
that essay, which evinces a thorough ac-
achs, and all writers of note on the sub-
e fact that while all plants and trees are
number of cells, yet from every one of
taken from the root, branch, leaf, bud,
can be produced a perfect tree, and that
will be precisely of the same kind. In-
that every tree or plant is formed or
l. When one cell is formed, it imme-
'orms two. These divide again, and so
a whole tree of precisely the same nature
ls, though alike when first formed, soon
nction; still all are of the same nature,
up the tree, and afterward to propagate
No natural tree ever changes its nature
wn accord. When this process of cell
ree, the work of propagation is com-

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more difference of opinion. Sometimes
r regular course and produces some very
n, for instance, a tree bears sweet and
o halves of different apples apparently
ıe trees continue to do it for a century or
ransmitted to other trees; when a limb
ıldwins, without any apparent cause sud-
short, when we see the large class of
orts because we cannot understand them,
derstand these? I think President Clark,
Massachusetts Board of Agriculture, in
ed idea, which we may sometime better
f the mixing of qualities in hybrid fruits
s by grafting, he says it may be possible
ıe graft may unite with a part of the cell
orm a kind of mechanically crossed cell
with infinite variations. May not this
l apple; to Mr. Meehan's experiments
a multitude of wonders that have long
But these are of little importance com-
of hybridizing, which is giving us our
l flowers.

DISCUSSION.

that, according to his observation of the
een made in raising new pears, the essay-
ice of Van Mons's method would result,
ation, in the production of new varieties,
rrence, Pratt, Sheldon, Brandywine, and
origin of which we know nothing more
d growing wild, and are not the results
Those who raise new fruits are often
ir parentage; for it is exceedingly diffi-
ls, and fruits are thought to be seedlings
ıs received the Fondante des Bois pear
rsery, and when Mr. Braddick visited
rre Spence, which he claimed as one of
of all pears; but this has finally proved,

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ıd the only cause, of its unpopularity in

ked whether the tree is a good grower.
at no fault could be found with it in this

ked whether it does not sometimes crack.
a very few cracked. The Columbia is a
it has the great fault of blowing off the
t six bushels from twenty-five trees in
tem is brittle, while that of the Vicar of
the pears seldom blow off.
y could not do better than to encourage in
culture of the apple. He spoke of a
lature to encourage the growth of timber,
well for the Society to petition for the
nd timber lands from taxation. In apple
he small farmers are at the mercy of the
e highest importance; the man who packs
chasers of apples will not buy those poorly
y low price.
mind that we cannot judge of the value
years' trial. The Doyenne du Comice is
ugh the twigs are sometimes winter-killed.
ountry in 1851, when the late Hon. Joseph
esident of this Society, and the speaker,
ers for new pears, Mr. Hovey's including
e du Comice. Though introduced before
en now little known, and probably not
to Boston market annually. The speaker
, that a few varieties are more profitable
But the promotion of market culture is
e of this Society; it is important to have
ourage their introduction. The Dana's
kel in habit of growth.
a Seckel and a Winter Nelis tree were
s yard.
Ir. Dana saved the seed of all good pears
ed about six good varieties, including the

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discussion. Mr. Wilder quoted from
can Pomological Society an instance
chardist, in this State, at an expense
e blossoms from his trees in 1880, and
ndred barrels of apples in 1881, which
venty-one hundred dollars. The prin-
f a man or a beast is overworked it
e same with a tree.
which we know nothing about. It
or a time, and then disappears for fif-
Messrs. Clapp and Wood's orchards
ed, while in the speaker's the same
rike the same varieties again. He was
Beurre Bosc blighted. The cause may
in currents of air.
occur with the most careful cultivators.
ing out from the stock, and take the
ertained, scions from it may be dissemi-
any varieties are sent out under wrong
pears as the Buffum and Doyenne Bous-
mended, Mr. Wilder said that in 1879
ty bushels of Buffums, which averaged
nd a hundred bushels or more of Merri-
than the Buffums.
1879 the crop was larger, and the sea-

wonderful that Van Mons, with such
produce such pears as Beurre d'Anjou
e Seckel and Winter Nelis are crossed
r pear. He did not think that seedlings
ver run back; running back is not the
"Give me a good son," said he, "and I
a good mother."
Wilder whether all his seedlings from
equal to the parent.
t they are all good, but none superior to
to speak of the progress of pomology in
said was unsurpassed by anything on

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out of a thousand were poorer than
be the same with a cross between the

condition of the parents when impreg-
important. When the flowers are im-
not be expected as when the pollen is
t of contact.
r. Talbot accounted for the superiority
ne pear, which was found growing wild
l.
as to the method pursued in raising the
ry, Mr. Hovey said that he had culti-
found that most of them suffered from
six plants, one or two of which were
vated them carefully, and, before the
l away the petals, and cut out the sta-
en of six different varieties. They were
to prevent fertilization by any other

r. Hovey took the qualities of the Early
them with other varieties, brought out

y's question, how he accounted for the
sse d'Angouleme and Seckel pears, he
sked concerning the Bartlett and other
ntains an embryo plant, made by its own
some other. He agreed with Mr. Wilder
male and female cells which produced
at the moment of crossing. We cannot
ll the seedlings. In Winchester, pollen
and formed the Baldwin apple. Every
ifferent variety will reproduce itself. If
change.
ly to a question from Mr. Wilder, con-
d corn, said that he was obliged to keep
on. The idea had been held out that
ou have only to sow the seed of good
eties; but his experience in raising seed-

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ɔnd brought him some fruit from its
are sold strung on strings. Another
from Surinam. When the European
. with these, large varieties were the
garden azaleas are hybrids, between
and *calendulacea*. If two apples are
roduced.
ɹ must take the best parents to pro-

ɛssed his full sympathy with all who
uce improved fruits. He thought Mr.
ncouraging, and that we ought not to
ge percentage of poor fruits. Darwin
e tendency of cross-fertilization is to
ertilization is not.
; the Baldwin apple originated in Wil-
hester, as stated by Mr. Talbot. John
ı 1863, when he was eighty-three years
it originated on his grandfather's place,
; from the original tree. It seemed to
vn now, and had yellower flesh. The
apple raising profitable is that they do

on the next Saturday Warren H. Man-
ı "The Best Hardy Herbaceous Plants
hat the discussion following would be
and Joseph H. Woodford.

account of other engagements, resigned
f the committee to collect information
ing for their size, beauty, or historical
ırshall P. Wilder was appointed in his
as added to the committee.

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or July, and are killed by the first frost;
a mass of decaying vegetation or bare

its, the first cost of which is but little more
good garden soil will live and blossom
r year, and are continually increasing, so
trouble or expense, can enlarge his own
to his neighbors.
on of one or two dozen species, flowers
e the ground is open in the spring until
e frosts; and with a greater number of
colors can be found among the flowers
eason, and in a collection of hardy her-
a never-ending variety and source of in-
xperiment. For the lover of flowers there
ay, and new flowers open for his pleas-
For the botanist a large collection of
luable field for study and investigation.
re is an immense field in the introduction
tivation of rare and difficult species, and,
oment of this class of plants, or certain
zation, by selection of the best seeds and
propagation of sports and curious seed-

one with the Hollyhock, Phloxes, Irises
not improve other flowers as well? In
of our country are found to vary freely
fine varieties have been obtained in all
orange scarlet. Here is a broad field for
to work up some specialty. The Anem-
ing class for cultivators; the beautiful
emone coronaria are not hardy here; but
and varieties, with shades of red, blue,
h-yellow, and double varieties. The Lilies
ss for the hybridizer to work among, and
vers might be mentioned; but any person
ted will find them for himself.
y are limited, a hardy herbaceous bed is

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Dicentra spectabilis would make a fine
foregoing, and if it is cut back as soon as
l, to stimulate a new growth, it will flower

g the surface of the ground covered with
um Biebersteinii, or other shallow rooting
be effective and successful. The foliage
would be pleasing through the winter, the
charms in the spring, while the lilies were
all, the surface plants would keep the soil
lies cool in summer, and protect them in
would be very favorable to the lilies. It is
andful of coal-ashes about each lily bulb
event decay and to drive away insects.
ions can be made, and when the same
and investigation is given to the hardy
to the tender ones, I believe that equally
duced with them.
nts with large ornamental foliage are not
ponica has a very fine foliage, and would
ould only stay where it is put. Probably
d that will make fine foliage effects.
graceful, and look well from early in the
.
egata and *E. Japonica zebrina* are great
plants. They require a little protection

-growing grass, forms a mass of fine,
tinct bluish tinge, — a very striking color.
border, and would make a fine contrast

ne in foliage and flower.
pretty dwarf grass, with a bright yellow

ne variegated variety, are effective in a
otection in winter.
atus, the Variegated Sweet Flag, is pretty,
wet land, but also in a good garden soil.

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l vars. Jonquils in variety.
and Liatris scariosa.
" spicata.
and Lilies, the many hardy species and varieties.
Lobelia cardinalis.
Lychnis Chalcedonica and vars.
ematis " diurna flore pleno.
g her- Lysimachia Nummularia.
ıre all Lythrum roseum superbum.
Narcissus in variety.
d the Opuntia Rafinesquii.
" vulgaris.
Pæonia, the species and varieties.
Papaver orientale.
Pentstemon barbatus *var.* Torreyi.
" Cobœa.
" grandiflorus.
Platycodon grandiflorum (white and blue).
Rudbeckia maxima.
" nitida.
and Saxifraga cordifolia.
Sedum Fabaria.
Sempervivums, species and varieties.
ıus. Solidago Virgaurea *var.* alpina.
Spiræa Aruncus.
" Filipendula.
" lobata.
" palmata.
" Ulmaria and variegated vars.
Tulips in variety.
Uvularia grandiflora.
ecies Valeriana officinalis.
Veronica pulchella.

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unkia) is beautiful for its bold foliage and trumpet-shaped, sweet flowers. The beauti- of the *Funkia Japonica* is most desirable for

s is a very graceful plant, and the Pæonies I call to mind a large bed of these on John ne of the most striking beds of flowers I ever a is a good plant. The Aquilegias, or Colum- irable genus, because of their endless variety love shows a beautiful variety of colors, and t is good.
a is very chaste, both in flower and fern-like

is very desirable; so are Lychnis and Cam- so *Trillium grandiflorum*, and Statice, and n's Seal is very graceful. *Eulalia Japonica*, a, are two grasses from Japan, and are of ake handsome specimens. The Lily of the about, and I would advise growing it in fully exposed to the sun, and then a pro- result. The great family of Lilies, nearly , must not be overlooked, as they belong to ler discussion; also the Tulips, Hyacinths, . What is more beautiful than *Narcissus* ils, and Daffodils, in the early spring-time? nerate hundreds of others equally desirable er; but I will close my remarks by saying, ve a love for floriculture, and the time to d in the cultivation of plants, and justly which a beneficent Providence has given

Discussion.

g called on, said that few are aware of the vn by hardy herbaceous plants when just und in the early spring. Sometimes we mud to get a sight of them, for they are wer garden of the great annual resurrec-

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the first of July to October, and before he
ch had been mown the latter part of June, was
ınd golden rod. There were also little stocky
ılustris, with eight or ten branches and covered
growth of bedding plants has encroached on
ınts under discussion, but it is a mistake to
to take the place of flowers. Mr. Hovey
ion of the subject in "The Garden,"[1] when
aceous plants were requested, and were fur-
of Sutherland's gardener and others, and he
e that so little progress had been made in
y years. In 1836 the speaker gave in the
culture" a list of the herbaceous plants in
om May to October, and in the list in "The
tional plant was mentioned, except such as
ince that date.

sa, or Butterfly Weed, is probably the most
tive herbaceous plants. It grows naturally
ily of the Valley is planted in out of the way
ıt flowers are wanted the way proposed by
ıt. If cultivated as recommended by him
rers, and make the prettiest carpet. The
st beautiful classes of plants, but many of
as *L. umbellatum*, *L. Philadelphicum*, and
en neglected for the White Lily. At Sand-
gh he saw *Lilium superbum* flourishing in
wild, but never cultivated, while the Tiger
oor-steps all over the cape. He could recol-
han any other flower; when a child he saw
Newton. Now the French, German, and
raised many magnificent varieties. He
an eighth of an acre, and his collection
rieties. No other flower will make such a
be massed instead of being scattered, as
Phloxes are very beautiful; not so much is
, such as *subulata* and *setosa*, as should
ies have been produced, of varied color
eed low plants as well as tall. Sunflowers

[1] vol xvii., pages 191, 280, 418.

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plants need moisture, to grow through

would dig deep, and manure also. If
u must get it; there should be a law to
ng without manure. Two feet is pretty
st it need not be dug so deep; he would
n or eighteen inches deep for roses.
ı Isabella grape vine, which bore very
better, and prepared a border, not more
ı the first vine, three or four feet deep,
ut never could get grapes as early, or
half as handsome bunches, as from the
f the soil should be kept constantly
oration. There is no doubt that remov-
ers from a plant will continue the bloom
s cut down by a hailstorm, and they gave
The principle is, prevent early bloom,
ı dry weather herbaceous plants should
Ie had not planted Lilies of the Valley,
ırm would grow them.
ht a display of flowers could be obtained
ants with less trouble than in any other
nportance of dividing and transplanting.
of flowers were of the Lily of the Valley
he had cultivated them successfully they
n the old place. He has allowed them
ition for a dozen years. The Solomon's
the garden, comes up earlier and grows
es in the woods.
e cultivation of the Lily of the Valley by
e the ground thoroughly, and in autumn
s and cultivate carefully for two years,
ıg roots ready for sale. To keep them
uld be divided every fourth year. He
do better in the shade, as they grow
e development of the flowers is depend-
the leaves.

the discussion of the subject would be
urday.

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borders deeper, but the speaker asked,
ennials, why let it go without manure?
) and manure well also, and not to set
to grow without anything to feed on.
de last week, as to the effect of deep
r farm crops, is correct. He had said
g if the ground is manured. The object
room for roots and provide moisture.
ave plenty of water, like roses. The
s not the alternative of deep digging
w digging with manure, but the best
ıe who can afford to plant a border of
feed them. Plants are like animals:
) grow without anything to feed on.
whether perennials did not need rest,
t have time to ripen their buds.
his borders are dug two feet deep, and
Dielytra spectabilis is one of the plants
ıe when cut back; unless transplanted
it is apt to dwindle and finally die out.
deep digging is the foundation of all
rather have the ground trenched two
than to have it dug shallow with
deners trench the ground every year

Mr. Moore was right in saying that
ı the cultivation of herbaceous plants.
ighteen inches deep, and give plenty of
ıe Trillium and Pæony, cannot be made.
hile the Phloxes and Clematis can
baceous perennials that will give late
ıg.
ht that herbaceous plants have not
deserve. The previous speakers have
ıin, but not all have the same way of
Pine Grove Cemetery, in Lynn, of which
ad been compelled to give attention to
than bedding plants. A place was

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ses, and border plants in the foreground.
onies, when in flower, is undoubtedly the
e of the collection. On our nursery grounds
about twenty feet in diameter, planted with
istinct varieties, has, during these beautiful
great attention. It is surprising that so
t rivalling the rose in brilliancy of coloring
n, and the rhododendron in stately growth,
. . . The foliage is rich and glossy
ep green color, thus rendering the plants
when out of flower."

are interesting from early spring until the
d, unlike bedding plants, always afford
' this subject were properly placed before
ety, and by local horticultural and village-
it would inform the owners of small places
eautify them. The speaker had read of
oots of Phloxes, and of flowering shoots
le length like roses. He recommended as
ble herbaceous plants for beginners, *Aqui-*
A. cærulea; the Alstrœmerias, which are
mone sylvestris, very desirable for spring,
umn flowering. The native Asters are very
on. *Bocconia Japonica* is well suited to the
Campanulas, Delphiniums (Larkspurs),
illardia grandiflora, Hollyhocks and
yrethrums, and *Spiræa palmata*, are all
are very desirable. The Fraxinellas are
markings of some of the Irises are as
chids. *Iris Iberica* is particularly beau-
d Lilies edged with Hepaticas looks well,
rpetual Roses edged with *Myosotis dissiti-*
ng flowering bulbs may be planted, which
nd would not injure the other plants.

l it is important that herbaceous plants
is grown for the seed, but the plants
their flowers. They need good culture
moisture, and particularly a moderately

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superbum. He had seen the latter grow-
h, with from fifteen to twenty flowers on a
th Mr. Hovey that the *Asclepias tuberosa*
rable of all our native plants. Some of the
handsome when cultivated; *speciosum*, *sem-*
re among the most eligible species. The
a, *longifolia*, and others — are also desir-
ginica and *C. Caroliniana* flower from
the last of May; both were cultivated by
Silene Pennsylvanica is very handsome;
a plant with seventy blossoms and one
ee buds. It was admired so much by Dr.
ed Mr. Hitchings to set out some plants
Auburn. *Cypripedium spectabile* is one
e orchids, and succeeds under cultivation

ientific name of a flower which she had
" Evening Glory." From her description
ohn C. Hovey and Mr. Barker as *Ipo-*
Woodford had seen it in Bombay, and
it is very fragrant and very desirable,
winter. Mrs. E. M. Gill had received
hich would not vegetate until scalded.
t when planted one corner of the seed
cut placed downward. President Hayes
Texas, covering the negro shanties, and
st it.

ame was not ascertained, spoke of the
d by soils of different character. The
supply of water, which is the life-blood
both ways, by rain from above and by
below; and, if we understand this
ether a soil will be benefited by trench-
y of water is small, and the subsoil is
difficult to draw water from it, then it
ed; but if it is loose and gravelly, it
ace is kept loose in dry weather, it not
portion below, and prevents the escape

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ING FOR DISCUSSION.

was read by the author :—

VEGETABLE CULTURE.

LIAM D. PHILBRICK, Newton Centre.

and Gentlemen : —

since that I received a request from our ehalf of the Committee on Publication and s meeting with a few remarks on the culture and I trust that you will pardon me if I ıer up, at this short notice, very little that is . Indeed there is, as Solomon said, " noth-

t gardening has made few changes lately; is worthy of notice. I refer to the recent Arlington and Providence, R.I., for raising e transplanted to hot-beds for heading up. ad so well in the greenhouse as in the hot- is easier to manage, and will grow excel- head up in a hot-bed in from six to eight tting, and it has been found a very great beds working early, to have a good supply reenhouse. If any one should ask why we as well in a greenhouse, I suppose the in the difficulty of maintaining an even veather, in the cold drip from the frosty ve dryness of the air of the greenhouse in ot-bed, being covered at night, preserves a e, has no frost on the glass to cause a cold not so dry, owing to the nearness of the sibly a covering for the greenhouse could vercome these difficulties, and make the d as that produced from hot-beds. Mil- of the worst obstacles in raising good y seems to be to keep the lettuce growing as to outgrow the mildew; but this rapid ith forming a good solid head.

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DISCUSSION.

ded that the greenhouse has the advantage over
when the lettuce is troubled by lice they can
by smoking, while a plant infested by lice in a
is. It is well known to lettuce growers that
ere was very little trouble from mildew. Then
ery slowly; but now it must be grown rapidly
nd then it does not form so solid a head as
ly. The market for the lettuce grown here is
York. This may appear strange; but it has
years, and the business is increasing, — one
hundred sashes, besides greenhouses, and
ousand sashes each.

hat the cabbage and celery are biennial; but
raise seed is too slow a process for some
who have started seed at about Christmas,
ost ready to head before setting out. But, as
probably has resulted in a habit of running
eason, which is very troublesome when the
he table. Last year, in the dry weather, let-

t, as it was coming time to start hot-beds, he
of his method. Some good ground should
t autumn, and a fence six feet high erected
h. It should be ploughed several times, as
ploughed when partly frozen, it will be the
ground should be covered with litter to keep
ort time before it is intended to start the
put down and the sashes put on and cov-
rs; but mats are not used until after the
le manure used must be as fresh as possi-
ed with about eight inches of soil, which
lition in the fall. For seeds, less loam
plants are set out, but enough should be
ising from the manure, which causes mil-
plants are placed under each sash. With
given night and day, and the gas let off.
ter yet, but when water is given it should

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ıst be maintained in houses to keep out frost,
air, which the lettuce does not like. He did
solid lettuce could be raised in houses as in
ore difficult to keep up the heat in frames dur-

ıt in December and January, when the sun is
et better lettuce in houses than in frames, but
ımes. Mr. Hovey thinks that as good solid
ised in houses as in frames; but the speaker
frames, and when about to reap the fruits of
er came and it was impossible to keep up the
ıe the days begin to lengthen, seeds, bulbs,
an amaryllis which at Christmas did not
ı all peeping up on the 10th of January. He
ured by excessively hot weather in Septem-
nometer rose to 100°, on the dark day last
lted.

Vilder asked if the greater part of the let-
not raised in frames.

t, up to this time, most of it is raised in
in frames. There has been but little good
ıis year, while it has been glutted with that
hought the greater part of the second qual-

He agreed with Mr. Hovey that the
ghing off" is not burning. In hot weather
if the grower is not careful. Nine out of
l then in cloudy weather it becomes weak,
es out it burns. He was unable to say
s are cheaper; but he has visited most of
a man could get a living out of hot-beds
s the depreciation has not been consid-
cost of shovelling snow, wear of mats,
account. He extends his cultivation in
ure gives the cheapest heat, and bottom
ıperature.

ettuce must be grown in a low temper-
where the glass will not be frosted with
of fifteen degrees when the wind is

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each sash. The plants, when large enough, are trained
and the fruit averages over a foot in length. He is
melons, and takes extraordinary care of them, and
ew kind. He makes large hills early in the season,
three feet broad and filling with rich compost; a
two feet square is placed over each hill until the soil
then the seed is planted, and he is always success-
vey is right in thinking that plants feel the increase
the winter solstice, even when the days are growing
morning. They have learned that the sun is return-

greed with Mr. Hovey that we want to get at facts;
had not hit the point we are aiming at. Some let-
is as good as any, and the conditions which grow
ill grow all so if we can only find out what they
le is not the distance of the plants from the glass;
t, lettuce is never drawn. Mr. Comley has shown
m a house twelve or fourteen feet high. Houses
ice have been introduced only a few years, and
vith them is limited. Small plants are not af-

experience had been the same as Mr. Wood's;
e from houses as good as any in hot-beds, but
cent., and he cannot discover the cause. Mr.
ill's suggestions are good. Lettuce needs light;
in the dark. The trouble complained of is called
is noticed just after sunny days; but the
rk days, making the plants so tender that they
ın. He has never seen it on small plants.
e best lettuce in houses where it is farthest
four and a half feet.
at in Mr. Philbrick's house the snow was
t part before falling. In England certain
r the glass. Primroses cannot be well grown
ould not be more than from twelve to four-
ums and *Euphorbia Jacquiniflora* flourish
e gave this as his theory of the cause of

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nt, he would put an eighth of an inch of
ıe soil in his hot-beds.
ed if the Arlington soil (where Mr. Hill's
ırally sandy.
t any good garden soil on top of ten or
is sufficient. It will absorb the ammonia
manure, and constitutes one of the most
ıe growth of plants.
t in 1879 and 1880 his squashes were de-
l on examination he found a maggot at
to prevent this loss.
only remedy is to destroy the fly that lays
borer is hatched, or to cut out the borer.
ıbstance is placed round the root to keep
ıe next joint.

ɔcussions announced that the subject would
t Saturday, with special reference to the
ɟetables.

SINESS MEETING.

SATURDAY, February 18, 1882.

of the Society was holden at 11 o'clock.
hair.

ıirman of the Executive Committee, re-
s to be offered for Essays, by the Com-
ıd Discussion, with the approval of the

COLLINS, of Malden, and
BURNETT, of Southborough,
d by the Executive Committee, were, on
ers of the Society.

TCH, of Chelsea, England,
of the Executive Committee, elected a
the Society.

February 25.

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keeping it is sometimes placed in a hot-
in a pit made for the purpose. The
ff, and it is heeled in as closely as pos-
vember. It should be blanched before
t as much as if it were to be sold imme-
d over the pit, and covered with litter
a shutter every thirty feet for a man to
ittle air, but not too much warmth; as
ithout freezing is best. The pit should
space of six inches between the celery
d be covered with tan or litter to the
half feet. The pit must be made in a
e cover should be slightly inclined, but
oes no harm.

t since vegetables had come into our
o freely, and were sold so cheap, it had
to raise early vegetables; but he had
s essential to their culture. He gave an
perations of a friend, who was formerly
d who has carried on to his farm the
in his mercantile business. The luxu-
les on this farm was such as the speaker
here were all kinds, and all were flour-
culture was simple but effectual. The
dy nature, was trenched three feet deep,
re was incorporated with it at the rate
cre. In the melon-bed the fruit was so
room to set foot, and was of exquisite
, set out on the 1st of August, were,
the 20th of September as a peck meas-
hree times the ordinary size. Though
t apart, they nearly covered the ground
wen thought it extravagant to apply so
saw the results he began to comprehend
undred strawberry plants, set out in the
in 1881 seventy-nine quarts of fruit,
g from an ounce to an ounce and a half
es were the gentleman's own seedlings.

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n, leaving only a strip in the middle to be
ıe ploughs the other way. He plants
peas, and when they are up ploughs the
d thins out with the hoe. When they are
arth toward them in ploughing. This
:pense of cultivation, as it avoids plough-
ɔw at the time of planting. He knew a
county who grew a fine crop of potatoes
Ie planted in drills, and covered with a
uts of the potatoes came to the surface he
a harrow, and destroyed the weeds when
s were sufficiently grown he used a culti-
lement was used until the crop was har-
fine crop of celery on the same ground.
d that the subject before the meeting was
'as more familiar with field than with
found that the most important matter in
ıave good seed, but it is not fully appre-
ɔp is of very great importance in Marble-
resides; indeed, at a farmers' discussion
most profitable farming specialty in the
s is the great care taken in growing the
ɔrcing it to produce seed in one year was
e its quality, and would, in a few years,
nnual. In selecting plants for seed, the
ea of a perfect cabbage in his mind, and
of the best of his crop, and from those,
ch most nearly to his ideal. These are
, and in a few years the ideal is reached.
h was produced in this way. The origi-
roduce a large cabbage, and succeeded,
ɔs; but as they were sold by count, and
d and twenty-five in a two-horse load,
profitable. Mr. Ware recommended it
'ows only "thorough-bred" cabbages —
n vegetables as in animals. With such
ill produce a fine head. He has seen
feet high. There is much seed in the

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awberries which the speaker planted in an
enched, were found to have sent down the
ıree feet. He cares but little whether the
ıny when he sets out strawberry plants;
into each hole when it is nearly filled, and
ıely pulverized soil.
, farmer near Boston who raises seventy-
ı in a year, and does not believe in chemical
ı stock of more than two thousand animals.
hemical fertilizers if he could have such a
ese animals would produce?
mpton, New Jersey, said he was not one
armers, but had some knowledge of general
ıere are but three retainers of fertilizing
arbon in the soil, and water everywhere.
re cut off an acre the water is evaporated
· a ton and a half is left, consisting mainly
worth perhaps less than a ton of what was
water went the condiments which make

he pure rain comes down, it washes from
which has emanated from the sewers and
d pan at the bottom of the tilled part of
to let the water through freely, it gives
o the clay and carbon in the soils. The
loss of nutritious matter in drying grass
) farmers, who have wasted nine-tenths
Io business man could ever succeed in this
preserve food for cattle, not by taking
xcluding the air. He would not have it
ampling, but would exclude the air by
)out three hundred pounds to the square
way the food will be perfectly sweet, in-
nto the acetous fermentation. The pit
ıould be long and narrow, so that what
from time to time without exposing the
) the air.
it is immaterial at what time vegetables

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ıd flat, and free from stones; well under-
ıffer from drought. It was probably a
The owner has a tannery near by, and
n ashes from under his boilers, as well as

ıe amount of fertilizing matter received
not understood. All plants grow better
thorough pulverization of the soil. It is
ke all their nutriment through their roots,
aves. Four-fifths of this nutriment is
in the form of nitric acid or of ammonia.
of all fertilizers, and the speaker asked
did not cause the nitrogen of the air to
ɜ of the soil, so that we could manure to
Certainly, the good effect of stirring the
ıechanical action.

ɜned to by a much larger audience than
and all appeared to be deeply interested
ıounced that the subject for the next
wering Plants, New or Old, most Desira-
ı," to be opened by William H. Spooner,
ɜe on Plants and Flowers, and Dr. Henry

INESS MEETING.

SATURDAY, February 25, 1882.

f the Society was holden at 11 o'clock,
s B. Hayes, in the Chair. No business
ıeeting, it

March 4.

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de of *L. Takesima*, the rival of *L. longi-*
e bloomer and stronger grower, and I pre-
operly treated. Perhaps many of the new
t and others have so successfully shown
ıst four years will prove worthy additions

nost elegant ornamental grass, throwing
ree feet high, with beautiful striped varie-
the entire length of the stem. It is
with delicate tufts of bloom, and, if cut
will gradually develop, the branches of the
d making it, in its feathery appearance,
orative grasses.
ıa is another variety, similar in growth
marked across the stem in divisions of
both these are perfectly hardy, and for
than the Pampas Grass.
um, the "Edelweiss" of the Alps, with
owers of a downy texture, is ardently
l is, perhaps, the more charming from
ts of which it is a native, though I am
d difficult of cultivation elsewhere. It
y at the Arnold Arboretum.
Japonicum is a hardy, rapid-growing
iage, and resembles the Madeira Vine
ıves and flowers. The specimen I have
ayes.
nany varieties, with their abundant
ıd their hardy constitution, has added
e early bloomers.
e Hollyhocks have seemed to me a very
ieties which John C. Hovey has shown
ıte a distinct break from his seedlings
ery marked advance, approaching the
ney are marked with the national
a pleasing variety to these showy

s, from Dr. Walcott, are the best of

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of branching habit similar to *S. splendens;* and it is quite free in bloom, but not to be ens. *Salvia Pitcheri* is of a new color, a lowers small in comparison with other a lobelia, — blooming very persistently. Mr. summer bloomer, and worthy of special very best flowering plants that we have long time."

escens, or Marguerite (Paris Daisy), is quite purposes. This flower is offered in immense ch flower markets; color, white, with yellow is a yellow flower, called Etoile d'Or, or

ce some remarkably fine additions, such as single-flowered Poppy; in color brilliant ing black spot on each petal; a profuse it a foot and a half in height.

gle and double fringed varieties have made ich striped, mottled, and self colors.

opæolums of new shades have added a rich e summer garden.

Mignonette, Miles's Hybrid Spiral, produces wers; it is an abundant bloomer and of deli-

ad, last Saturday, an opportunity of seeing, wo of the finest specimens ever exhibited

ox *Drummondi grandiflora* are strong grow- in rich colors.

ditions to the Sweet Peas, of which we may white ground, delicately laced with laven- ented; and Violet Queen, of dwarf habit, color.

most popular annuals of recent introduction *alis* Meteor; flowers very large and double; ow, distinctly striped with deep orange; a omer in the summer garden, and equally cultivator tells me it is very nearly hardy

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ng plants as formerly, but more inclined
aceous plants, which every one can have
house or not. Bedding plants are much
d not discard bedding plants entirely, but
plants for a portion of them.

en some attention to flowers, particularly
nd herbaceous perennials. For common
ot time to give to annuals they afford
chorda grandiflora is one of the best
most charming, and keep a long time in
tly hardy. *Azalea mollis* also is perfectly
s varieties, in every shade of color, afford
which will repay every one. It thrives
flowers and trusses are largest, in a peaty
essary that peat should be added to the
clayey. The White Fringe tree (*Chionan-*
ul shrub. It looks best when pruned in
tinidia polygama, from Japan, is a most
preading thirty feet, with beautiful foliage
hragma hydrangeoides, another Japanese
foliage, which it puts forth very early in
December. Of trees, the Purple Beech,
arious kinds of Magnolias, are most de-
ty of Pæonies, both tree and herbaceous,
ear to year. The perennial Poppies seem
auty year after year.

the *Kalmia latifolia* is not more culti-
lis, which has been so highly recom-
y beautiful, but only as long as it is in
is beautiful in its foliage the year round.
as that of the camellia; that of the rho-
are with it; indeed, no other plant will.
imited, but the shrub is well adapted for
should have a sheltered and somewhat
ed soil.

ould recommend the Kalmia for a great
tions. He grew up among it, and has
ur inches in diameter, and tall enough to

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which may be easily obtained, such as the Purple
gnolia Soulangeana and, other species, the Cut
; Birch, the Laurel Leaved Willow, the *Viburnum*
ctinidia polygama, a beautiful vine from Japan,
n fill this room, and which, though recommended
ot of great promise except for ornament; and the
f which the Gloria Belgica and the Elizabetha
nest. *Azalea mollis*, a new species from Japan,
ost showy. The speaker has crossed it with *A.*
seedlings growing.
s spoke of the beauty and vigor of the *Actinidia*
roduced fruit in his grounds last year.
rey said that Kalmias planted in 1844, in his
y twelve feet high and eight feet broad, with
ır inches thick, and in the season of bloom are
ers. The Rhododendron and Kalmia are so-
will not grow alone, but must be planted in
one reason why they are so much neglected.
found growing on the edges of woods, which
on that they need. If planted in exposed
vind comes when they are loaded with snow,
und, so that the chances are ten to one that
th looking at in a few years. They look well
ree to twelve, with azaleas intermixed. They
do all "American plants," but will do well in
ı not in clay.
f the shelter of surrounding houses would not

it might. The Kalmia and Rhododendrons
group of twenty men standing out in a cold
middle will be comparatively protected from
outside will suffer. The Rhododendron is
old day like this the leaves curl up. They
brothers around them so that they can pro-

n vastly improved by French, Belgian, and
but yet is not appreciated. Many of the
nt perfume. Planted in groups, or in the

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es of Narcissus are multiplying rapidly, and a surprising
offered by Barr & Sugden and Thomas S. Ware; but
limited number are grown here. They are easily
and afford a remarkable range of variety, and nothing
tiful or satisfying in early spring. The Bicolor sec-
numerous, and gives a great display of color. The
Luciliæ, or Glory of the Snow, a new bulbous rooted
sia Minor, allied to the Hyacinth, has lived out-doors
Mr. Beard's grounds, and produces beautiful blue
y spring. It promises to be one of the most valua-
its season.

her bulbous rooted plants almost innumerable. The
of the genus Gladiolus is very beautiful in early
lately been taken up with much enthusiasm by some
n nurserymen, who have raised hardy hybrids, of
ne has sent out six new varieties. We can gain
spring with Anemones, Ranunculuses, and Alpine
es, though rockeries, as ordinarily constructed, are
uch like piles of cobble-stones. A very different
resented by a rockery which Mr. Beard saw in Dr.
t's garden with Cypripediums and other hardy
ing on it. Pansies afford great delight in early
ne of the simplest things to have them at that time,
e fail to do it. We should study up the habits of
ly than we do. The speaker thought the cease-
g plants in summer a most tiresome exhibition
ltivated as some dresses are worn: only because
They are in their glory in August, and soon
ost takes them; but we get no wider range in
ous plants, which are beautiful throughout the
er lilies afford a long list of beauties. Only
n growing the California lilies. The Double
to be hardy with Mr. Beard; but it is among
half-hardy plants. Nothing is more beauti-
mone Japonica. He lifted his plants, and put
n before frost, and placed them in the green-
l until Christmas. *Primula vulgaris*, though
favorable for it as those of England, can be

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BUSINESS MEETING.

SATURDAY, March 4, 1882.

ting of the Society was holden at 11 o'clock,
Francis B. Hayes, in the chair.

. Wilder announced the decease of Thomas
ambridge, a Corresponding Member of the
ıy years Professor of Botany to the Pennsyl-
ociety, and moved the appointment of a com-
morial resolutions. The motion was unani-
the Chair appointed Mr. Wilder, Charles
ımin G. Smith, as that Committee.

ferred to the Special Prizes of Silver Cups
ɔn at the last three Rose Shows, and the
hey added to the shows, — an interest which
Massachusetts, pilgrims from different parts
ɡ been attracted to the exhibition. These
oduce more fully to the public the improved
He felt it a duty to the gentlemen who had
ıd, to speak of the freedom and liberality
He deemed it important that the prizes
nd that the Rose Show should be made the
ar. He suggested that this year the sub-
amounts, and that the members generally
and that a committee be appointed to take

unanimously carried, and the Chair
ıittee: Mr. Atkinson, William Gray, Jr.,
ı H. Spooner, and John C. Hovey.

y, March 11.

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great tenacity wherever planted. The foliage
nt, but the beautiful orange colored flowers, in
mpet, borne in clusters in August and Septem-
ake up for the deficiency of the color in the

also valuable, and reference has already been
hese meetings. They require artificial support
re they can ramble among woodbines (Ampel-
hen in flower, are very beautiful, especially the
the purple flowers of which present a very
when intermingled with the foliage of the

ire also exceedingly desirable, and should be
vated. Near my residence is a single plant of
which covers a space of over two hundred
ough said to be not quite hardy it has withstood
verity of at least ten winters, and is each
red with its beautiful, blush colored flowers,
ummer a delightful shade from the sun, and
excluding the air.

so well adapted for porches and verandas,
attention. The Red and Yellow Trumpet
a sempervirens and *L. flava*) are two beauti-
re is also the *L. pubescens*, very luxuriant
ge colored flowers. The Chinese or Japan
are deservedly popular; among them is the
leaves of which are beautifully veined with
us plant for a veranda among the green-
hen grown with *Clematis Jackmanni*, the
oneysuckle and the purple flowers of the
autiful combination of color.

ING SHRUBS. — The Andromedas are
able, the habit of growth being compact
autiful foliage and showy flowers, it has
place in all collections of peat-soil plants.
nbridge, can testify to the value and per-
omeda floribunda. I imagine an entire
soon forgotten.

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arden Committee mention is made of
, which is very striking and effective;
excellently, and must prove a valuable
d shrubs. *Bignonia grandiflora præcox*
ducing a great abundance of large, cop-
h last from July until frost. The only
in the grounds of our President, at

ina is a most desirable shrub. Ex-Presi-
ecimen ten feet high and eight feet in
flower, is so beautiful that great num-
to see it.

LOWERING PLANTS. — Special attention
this class of plants in the discussions of
enture a few remarks, and first of all to
be given to Delphiniums, which should
Phloxes. There are very few plants that
the flower garden and shrubbery, from
l. Their cultivation is simple; any good
, but if well enriched of course it is all

as had experience with the Pentstemons
. I have not; but it seems to me that if
we have not yet given them the place
oolson & Co., of Passaic, N.J., in their
hybrid Pentstemons are not hardy, but
rieties which they consider fine and per-
ork.

Eulalia Japonica is excellent, the foliage
The flower-stems, which do not appear
dd much to the beauty of the plant. It
of all ornamental grasses, and for winter
ble.

able and highly ornamental genus. From
6, 1878, we make the following extract:
plants, their season of bloom is not long
t, by cultivating them in various places
way when out of flower, this is not felt to

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nds were almost all killed by the severe
. *alba* is very pretty, but a little ten-
s smooth as those of the *W. rosea.*
f, and not very hardy. Of herbaceous
as clusters of rich purple flowers, and
atus, var. *Torreyi*, has long flowers of
e habit of the plant is not good. *P.*
le flowers; it has proved hardy so far.
ower in May, the German irises in June,
aking a season of three months. *Soli-*
fusely, and fills the ground with seed-
sses, the *Erianthus Ravennæ* is very
nter bouquets; it grows eight or ten

e of the advantage to our gardens of
ubs of permanent beauty, like the Kal-
ibunda. The *Cornus Sibirica variegata*
of the wood in winter as *C. sanguinea*,
the most desirable of all variegated
ist's Variegated Althæa, but resembles
ula, though more beautiful. The color
autumn it is suffused with rose. The
with no look of sickliness.
at he had lately been reading the new
ld Garden," and was interested in his
the use of hardy herbaceous plants,
hat obsolete. The *Solidago rigida* is,
en plant, but it is beautiful to domesti-
nd there its excessive seeding is not
ays Mr. Robinson is doing much for
red to gives many ideas worth consid-
ffect produced by large-leaved plants,
coarse, like the Sunflowers, the Even-
ecome almost obsolete), the Rhubarb,
ybrids of *Pentstemon grandiflorum* are
word hardy is deceptive, and not appli-
every season. The species mentioned
lifting in autumn, and placing in a

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cold frame, when it will make beautiful plants the next summer. *Senecio pulcher* is not very well known, but is one of the most striking of the Compositæ. It very seldom seeds, but if lifted in the fall, and placed in a cold frame, it makes underground roots, and can then be divided. *Tritoma Macoweni* is not so rank a grower as *T. Uvaria grandiflora*, but is of a most remarkable orange color, and sometimes hardy, and is one of the most desirable herbaceous plants. *Stokesia cyanea* can always be relied on. The speaker had stumbled on a clump of *Viola pedata bicolor*, the type of which is well known as growing on hills, in light, sandy soils. The variety *bicolor* is perfectly hardy and one of the most beautiful, though not as showy as the pansy. This and several other varieties of violet might be planted on rockeries. The different species of Corydalis are also among the most desirable for this purpose. The Fritillarias are one of the most beautiful races. *F. Kamschatkensis* is new and hardy, and worthy of attention. The number of new varieties of Snowdrops is surprising; and, as well as the common kind, they are very beautiful in the garden in early spring. Several hardy tulips have been introduced, among them *Tulipa Kolpakowskiana* and *T. Greigi*, brought by Dr. Regel from Northern Asia. They are tall-growing plants, perfectly hardy, and enjoy being let alone. *Iris Kœmpferi* sports from seed, and affords the chance of getting new varieties. *Clematis coccinea* is very remarkable; the scarlet flowers are not very large, but they cover the plant. It is one of the herbaceous species, dying down in autumn, and making a rapid growth in spring, and is perfectly hardy. Many new Pitcher plants — varieties of *Sarracenia Drummondi* — have been sent out with high praise; but it appears as though the growers only thought it necessary to tack on another adjective to charge a guinea extra. Poppies have fallen somewhat into disrepute; but clumps of the best varieties will form beautiful beds of color, harmonious with all around them.

Mr. Beard said that he wanted to grow all the hardy varieties of pinks. If confined to one flower he would take up this, and give the tender ones the protection of a cold frame. The colors and growth are beautiful and varied; and, with attention, this class of flowers could be made very interesting. He has imported many new varieties, and though his ground is clayey and not adapted to

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overs with leaf-mould and straw, and they come
g. The Delphiniums are a wonderful race of
been greatly improved by M. Lemoine. One hun-
llings, which Mr. Beard raised from seed received
l worthy of the place of honor. Dr. Walcott
e new varieties from seed, showing that great
n made. The hyacinth-flowered varieties are
. If the plants are cut down in the early part
l give late bloom.
said that the subject is so interesting that we
can of it, and he would like to hear from the

poke of the *Arabis hirsuta*, used in rockwork,
There is a variegated variety.
that the new Delphiniums are truly beautiful.
raised by the late President of the Society,
, may be excelled in stateliness by some of the
t in color or doubleness. Three years ago he
who, after they had looked over his plants,
f seed which produced scarcely a poor kind,
or to the named varieties. Mr. Hovey spoke
nch men and women as the reason why they
ducing so many new and beautiful flowers;
said that after dinner at M. Lemoine's, a
of minute seedling tuberous rooted bego-
Lemoine began potting off before they left
he old hardy herbaceous plants are probably
n may be found in country gardens. We
o introduce new things, not to neglect the

sented, and read, from the account of Mr.
sed in a pit in 1830 and 1831, referred to
11th of February. The record was kept
nd minuteness, giving the length of every
longest in 1830 was eleven inches, but in
d to twelve inches.

need that the discussion of the subject
e next Saturday.

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BUSINESS MEETING.

SATURDAY, March 11, 1882.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. Francis B. Hayes, in the chair.

The Reports of the Treasurer and Finance Committee for the year 1881 were read by the Secretary, accepted, and ordered to be placed on file.

E. H. Hitchings called attention to the fact that the value ($20,746.12) placed on the Library, in the Treasurer's Report, is less than its real value, as it takes no account of the many donations of books by Professor Russell and others, or of the "Davenport Herbarium of Ferns," which appertains to the Library. This herbarium contains about eight hundred double sheets, with nearly three thousand specimens, representing thirty-one genera, and one hundred and fifty-six species, including every known fern of North America. It is one of the best fern herbariums in the country, and in some respects the very best, and is known by botanists all over this country and in Europe. In regard to its money value, Mr. Hitchings thought four hundred dollars a very low estimate. It was presented to the Society in 1875 by George E. Davenport, who has since added largely to it. The work done by Mr. Davenport on this herbarium, and his success in collecting specimens for it, are wonderful. Within the last two years Mr. Davenport has identified and named three new species, *Cheilanthes viscida*, *Notholæna Grayi*, dedicated to Professor Asa Gray, and *Cheilanthes Parishii*.

Adjourned to Saturday, March 18.

MEETING FOR DISCUSSION.

The subject assigned was a continuation of that of last week: "Flowering Plants, New or Old, Most Desirable for General Cultivation," and it was opened with the reading of the following paper by the author: —

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TREES AND PLANTS GROWING IN THE GARDEN WILLIAM BRIGHAM, IN BOSTON, IN 1841.

By WILLIAM T. BRIGHAM, Boston.

len of forty years since was situated on the ngton street, between Olive place and Blake's te what is now Union Park street, but then an t below the level of the street. The long, old- od endwise to the street, and formed a wall on e lot, which had a frontage of about a hundred something like nine thousand square feet. It wn when first laid out, and for many years the ere the only public conveyances to and from

ıe garden in 1841, as appears from a list in rised both useful and ornamental trees and

the flat Double Buttercup, with dark green now.
a, the purple-blue variety.
la.
the Bee Larkspur.
n, Striped Monkshood.
he old Pæony, with a color only surpassed Nevada deserts, which unfolds its blossom The odor of this showy flower was its chief

ra, the Tulip Tree, grew finely, and became ı diameter, with a clean, straight stem.
m, the May Apple, so common on Goat not cultivated with us as its delicious odor

Mountain Fringe, a most graceful vine.
Rocket, in its many shades of white and

ınua, Gilliflower.
allflower, the bright ornament of many a ral and southern Europe.

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Iberis umbellata, Candytuft, both white and pink.

Alyssum maritimum, Sweet Alyssum.

Reseda odorata, Mignonette.

Viola odorata.

Dionœa muscipula was grown in a box, which was removed to the cellar in the fall. It seeded itself, and lasted a number of years.

Dianthus barbatus, Sweet William.

Dianthus plumarius, Pink.

Lychnis Flos-cuculi, Ragged Robbin.

Lychnis Chalcedonica, London Pride.

Silene armeria, Pink Catchfly. The seed of this was continued thirty years at Grafton, Mass.

Malope trifida, Great Flowered Malope.

Althœa rosea, the many-colored single varieties of Hollyhock, worthy a place in any garden, and not surpassed by the double varieties.

Hibiscus Syriacus, Althæa, so attractive in the latter part of summer.

Hibiscus, sp.

Tilia Europœa, Linden.

Tropœolum majus, Nasturtium.

Impatiens balsamina.

Rhus cotinus, Smoke tree, so attractive with its peculiar red and green.

Vitis vinifera, Sweet Water Grape.

Vitis Labrusca, Isabella and Wild Grape. The Isabella was one of the largest vines I have ever seen in this neighborhood. An elephant died in the city, and his remains were buried beneath the young vine, which, favored by the generous nourishment, grew over a trellis of many hundred square feet, had a trunk more than a foot in diameter, and annually bore from five to ten bushels of the finest grapes of that variety I have ever found. The trellis was supported about two feet from the house, and the crop always ripened early, with fine color and great sweetness. Cuttings from this vine have been growing in my other gardens ever since, but seldom ripen their fruit. The wild grape was cultivated for its delicious odor.

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Hippocastanum, Two large Horse Chestnuts, cut down
re but part of a row which extended at intervals from
to the Roxbury line. One only now remains, — on the
late William Dall, near Dover street, — and that will
down.
ılba, Sweet Clover, a very fragrant and desirable
and much used in Europe for fodder.
eudacacia, Locust, even then troubled with the borer.
oida, Rose Acacia.
doratus, Sweet Pea, grew, but not vigorously, and
to thrive in Boston.
ıtifolius, Everlasting Pea, certainly deserved its
stool grew for thirty years, and in 1851 was trans-
ton.
ca, four kinds of Peach trees, small fruit, of fair

Nectarine.
ıiaca, Apricot; three trees grew against a trellis
, constantly encroached upon by the vines, but
lance of excellent fruit.
ica, Plums, of three kinds, large trees, abundant

, Black Tartarian Cherry.
ı.
, Meadow Sweet.

ıla, Dropwort.
abbage, White, and Yellow Roses.
Pear — St. Michael, Skinless, Seckel, and an-
ls.
ıs of Wine apple, a large tree, but bearing

Mountain Ash.
Quince, two trees, bearing well.
ı.
ering Currant.
rius, Syringa.
florus, Large Flowered Syringa.

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Fuchsia coccinea (?)
Passiflora cærulea.
Astrantia major.
Symphoricarpus racemosus, Snowberry.
Symphoricarpus vulgaris, Coral-berry.
Lonicera caprifolium, Monthly Honeysuckle.
Lonicera flava, Yellow Honeysuckle.
Artemisia Abrotanum, Southernwood, that "old-fashioned" garden plant which reminds one so much of the sage on the plains.
Artemisia absinthum, Wormwood.
Cacalia sonchifolia, Tassel Flower.
Callistiphus Chinensis, China Aster, — not the choice varieties that our florists now give us, which rival, if they do not surpass, the fine products of the Chinese pot gardeners.
Achillea Millefolium, Yarrow, pink and white.
Chrysanthemum Parthenium, Feverfew.
Calendula officinalis, Marigold.
Coreopsis tinctoria.
Dahlia variabilis.
Zinnia elegans.
Tagetes erecta, African Marigold.
Lobelia cardinalis, Cardinal Flower, grew exceedingly well, and lasted many years.
Campanula persicæfolia.
Campanula Medium, Canterbury Bells.
Primula officinalis.
Tecoma radicans, Trumpet-creeper. This trumpet-flower grew all over one side of a long shed, and flowered abundantly; never injured by frosts.
Catalpa bignonioides.
Verbena, sp.
Melissa officinalis, Balm.
Mentha piperita, Peppermint.
Phlox subulata, Moss pink.
Polemonium reptans.
Ipomœa purpurea.
Convolvulus tricolor.
Petunia violacea.

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iginifolia.
nqueflora, Blue Gentian, did well. It certainly de-
tention, as it grows easily; and, although not quite
as the Fringed Gentian, is much more easily

Periwinkle.
ris, Lilac, white and purple.
a, Persian Lilac.
nticum, Rhubarb.
eum; a portion of this shrub is still living at

ina, American Elm. My father was the planter
ns on Washington street, over the Neck. He ex-
in the matter, and the result is seen in the fine
g near Franklin and Blackstone squares.
ina, Hazel Nut.
a, Weeping Willow, a specimen larger than the
on Chauncy street.
Fir Balsam.
Arbor Vitæ.
llus, Grass Pink, grew well.
s, the beauty of the Alpine swamps and fields

ssima, Jacobæan Lily.
, Snowdrop, planted about the same time as
eman Estate in Roxbury, that have all these
tokens of spring in this neighborhood.

is or *psittacinus.*

, Lily of the Valley.
eum, Solomon's Seal.
iger Lily.
White Lily.
grew exceedingly well.
, Crown Imperial.
three varieties, including the ragged. The

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bulbs were taken up and re-set every year, and during the flowering attracted many visitors.

Ornithogalum umbellatum, Star of Bethlehem, was used for edgings.

Hyacinthus orientalis.

Funkia subcordata, and *F. ovata*, Japan Lily. Plants of this genus are still living in my yard in Boston, and the roots have supplied many gardens. A clump of the blue is attractive even when not in bloom, and the odor of the white is very delicious.

Hemerocallis fulva, Red Day Lily.

Hemerocallis flava, Yellow Day Lily.

Yucca filamentosa grew very well, although the soil was by no means so dry as that in which it flourishes in immense quantities on the line of the Pacific Railroad.

Tradescantia Virginica, Spiderwort, by no means so large as that I saw a few years since wild, in Kansas.

In 1851 the destructive storm that swept the tides over the then narrow Neck, and overturned Minot's Ledge Lighthouse, washed into and over this little garden. Its waters were fatal. The tulip tree died first, and then others at intervals; but the soil was never fertile again. Immense quantities of earthworms were destroyed, and several wheelbarrow loads had to be removed to prevent stench. The water was eighteen inches deep on Washington street.

Discussion.

E. H. Hitchings wished to say a few words in favor of the native orchids for cultivation in gardens. Dr. H. P. Walcott has successfully cultivated in his garden, in Cambridge, the *Habenaria blephariglottis*, *H. ciliaris*, *Cypripedium spectabile*, *C. parviflorum*, and *Calypso borealis*. The speaker travelled two hundred miles in search of the Yellow Fringed Orchis (*Habenaria ciliaris*). Dr. Walcott also cultivates successfully the *Trillium grandiflorum* and *T. erythrocarpum*. The *Rhexia Virginica* has succeeded too well; it propagates so rapidly that it is in danger of becoming a weed. It is very showy. The speaker thought the *Urticularias* or Bladderworts might be cultivated by those who have the conven-

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seen a brook where part was purple
and thought this species might be
ond, and *U. resupinata*, *U. cornuta*,
rgin.

ng called on, said that he had been
elve weeks, and during that time had
the beauty of the evergreen shrubs
windows, such as rhododendrons, kal-
has an octagonal conservatory fifteen
his library, which has afforded him
re while unable to go out; for, by open-
imself in Florida. This little conserv-
hundred pots of flowers, and there has
the winter when he could not cut a
e. It is heated by a Wethered boiler, of
ave objected to a conservatory adjoin-
the necessary fumigation pervades the
r strips on the door opening into his
uble from this source.

that in 1836 he published in the "Mag-
hich he then edited, a list of flowers
month through the season, comprising
gham's list, beginning with *Phlox subu-*
d *P. stolonifera*. The Podophyllum,
ell in the shade. Though the Del-
proved, none surpass the old Bee
in stateliness. The Adlumia, or
ke care of itself. *Dianthus barbatus*
Lychnis Flos-cuculi are as desirable
all pretty. *Astrantia major* is very
popularity of Marigolds (*Calendula*
ht a change is necessary to bring an old
The whole list, Mr. Hovey said, carried
old times when gardens were filled
h possessed an individuality, instead of
g. This should be adopted only as an
should be separated from other portions
Brigham's list also reminded him of his

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mother's herb garden, where she raised herbs, not only for herself, but to give to her neighbors. It contained the old Cinnamon rose, well known for its fragrance, though he rarely thinks of fragrance in flowers; he loves them for their beauty, and if they have fragrance so much the better. This garden was, like Mr. Brigham's injured by salt water, but earlier, — in 1832 or 1833. On the 2d or 3d of March the tide was a foot over the main road, and, though it covered the garden only an hour, it killed many plants. The speaker thought this should lead all who apply salt to their ground to be very cautious in the use of it. Mr. Hovey alluded to the deceptions in regard to plants practised by foreign adventurers, who have published catalogues containing blue tuberoses and rhododendrons, and lilies and carnations a foot in diameter and striped with blue. Much ingenuity and talent, which might be better employed, are required to get up such a catalogue. He also condemned the formation of rockeries in immediate connection with highly architectural houses, and the prevalent taste for gypsy kettles, painted bright red and hung from a tripod, to plant flowers in.

Hon. Marshall P. Wilder said that at a previous meeting he did express the desire that a rose should have fragrance, but he would not exclude an otherwise fine variety, because it lacked that excellence.

President Hayes alluded to the beautiful exhibition of flowers, which surpassed all previous ones of the season, and especially to the fine specimens of Hybrid Perpetual roses from John B. Moore, and called on Mr. Moore to say something of them.

Mr. Moore admitted that he had the rose fever; it took him seven or eight years ago; and, unlike the annual rose colds, it is chronic. He likes an old rose or other flower if it is as good as the new ones, but not otherwise, and he would not praise a flower merely because it is old. Few of the roses originated before 1860 are worthy of a place in the garden now. He thinks more of a rose if it is fragrant than if it is not. It is a strong point in its favor; but he would not reject a fine variety — the Baroness Rothschild, for instance — because it is destitute of fragance, any more than Mr. Wilder would throw away his collection of camellias because they are not fragrant. The Alfred K. Williams and Duke of Teck

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st new roses; they are of good color and form, nises to be a good grower, and the flowers are uld not throw away such old stand-bys as the llane, — perhaps the finest rose of its color. He unwise stories had been told of the difficulty ›ses. It is nonsense to say that a bed four feet en sods and half manure is necessary. Eighteen igh, and will give better roses. The essentials ire, and plenty of water. Roses need water as ies, especially when it is desired to obtain con- ı Hybrid Perpetuals, for to give this they must us growth.

the Committee on Discussions announced that y a lecture on the "Effect of Chemical Fer- lity of Fruits and the Growth and Diseases ›e delivered by Dr. Goessmann, of the Massa- l College, who believes that he has discovered ws in the peach. The chairman stated that opportunity to learn the results of the latest investigations of the whole subject would not l it was desired that all present would invite as were interested to attend.

USINESS MEETING.

SATURDAY, March 18, 1882.

ıg of the Society was holden at 11 o'clock, ·ancis B. Hayes, in the chair. No business ıe meeting it
ay, March 25.

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MEETING FOR DISCUSSION.

The following paper was read by the author: —

On Mineral Constituents in Plant Growth.

By Charles A. Goessman, Ph. D., Professor of Chemistry in the Massachusetts Agricultural College, Amherst.

A careful examination of the circumstances which have favored the recent introduction of a more rational farm practice for the production of crops, cannot fail to prove that the recognition of the important influence which certain mineral constituents of plants exert on plant growth in general has contributed more to our success in agriculture than any other one which may be stated. The confidence in the correctness of the current opinion, that the presence of these mineral constituents in an available form in the soil is essential for the reproduction of any plant from its seed, is so firmly established in the minds of thinking agriculturists that we are apt to forget how recent the date when the first comprehensive experimental investigations in that direction rendered the existence of these relations between soil and plant more conspicuous. It seems at the present time almost incredible to notice in the writings of Justus von Liebig that, as late as 1830, one of the leading botanists of the University of Berlin, Sprengel, still asserted that ground bones are of no use as a fertilizer in Germany; or that the distinguished French chemist, Dumas, even ten years later, considered the mineral constituents of plants a mere incidental feature in the vegetable economy; or that before 1840 not one pound of Peruvian guano was used upon the farms of Europe, although Alexander von Humboldt, in 1814, had described its use as a fertilizer in Peru, and some shiploads of that material had found their way to the London market. In citing these instances I need not state that neither Liebig nor any other well informed student of the agricultural practice in previous ages denied the high appreciation of wood-ashes, bones, gypsum, lime, marl, and other mineral substances, besides the various kinds of animal manures, in the farm management of earlier times. Modern rational agriculture does not rest its claim of progress on the mere introduction of any particular new mode

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ry to maintain a remunerative fertility of
ion by fallow and the rotation of crops,
on of the farm lands at the expense of
g a certain proportion of meadows and
re for the grain-bearing lands; or to en-
the expense of the subsoil by raising
oot crops, or leguminous crops, as clover,
nure; or to improve the natural produc-
deep ploughing, or by drainage, or by irri-
f farm practice known, more or less, for
r real progress in this direction consists
of the *principles* which control the success-
ractices in the management of farms.
culture recognizes as the foundation of a
ecessity of a strict restitution to the soil,
f those substances which the crops have
es to that class of farmers who strive to
rement in the most economical way, the
ed financial success.
l-point the earlier practice of using the
bstances and others in the farm manage-
s compared with their application at the

sition of the air and the water was but
hat of the soil practically unknown, no
rmed concerning their mutual relations,
their connection with the life and the

st *successful* attempts to study the rela-
gdom to these three agencies date only
st century. They are largely the results
r and Priestley. Foremost among the
ginning of the present century, devoted
chemical physiology of plants and the
to agriculture, are De Saussure and
e former was the first who called atten-
ineral constituents in plants, and pointed
s to the soil and the growth of plants,

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The fertilized vines appeared, on the whole, more vigorous, and the leaves, as a rule, retained their vitality longer in autumn than in the case of the unfertilized ones; they escaped repeatedly a serious attack of mildew when the remainder of the vineyard suffered with it more or less. The sugar seemed to be somewhat increased in the fertilized fruit of the Concord grape, and had increased one-third in quantity in the wild purple grape. The increase of sugar was accompanied by a marked increase in potassa, and, at the same time, a remarkably reduced percentage of lime in the inorganic portion of the grape. The influence of fertilization on the composition and the character of the fruit manifested itself in a higher degree in the case of the native wild grape than in the case of the improved variety. The results of these experiments afford an additional illustration to the opinion that special fertilization must be considered a factor of more than ordinary importance in fruit culture. Of course, sugar alone does not control the quality, yet the fact that its amount can be altered by fertilization shows the existence of still untried modes of treatment to promote the interests of horticulture; for what has been noticed to affect the quantity of sugar may, by some modification, prove efficient in regard to other constituents.

The entire vineyard has been for several years fertilized, with satisfactory results, with fifty pounds of soluble phosphoric acid, one hundred pounds of potassium oxide in form of muriate of potash, twenty-five pounds of nitrogen in form of Chili saltpetre, — sodium nitrate, — and twenty pounds of magnesium oxide in form of crude sulphate of magnesia, or kieserite.

II.

Experiments with Strawberries.

The varieties used for the experiment were the President Wilder and the Charles Downing. In the case of the Wilder strawberry the following fertilizer was used per acre: three hundred pounds of rectified Peruvian guano, two hundred and fifty pounds of dissolved bone-black, and two hundred pounds of muriate of potash. The following analyses convey a good idea of the difference in ash constituents between the common wild variety, without special

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The changes in the organic portions of the fruit raised upon the various plats will be studied the coming season, if time permits. As the mineral constituents of the berries show similar changes in relative proportion to those noticed in the previous experiments with grape vines, it is to be assumed that similar changes in the organic matter, and thus in the quality of the fruit, will be found.

The lime has decreased, and the potassa has increased, in plats one, three, and five, as compared with that in plat four.

The unfertilized plants in plat two form apparently an exception; yet the result may find a satisfactory explanation by the well known peculiar action of the sulphate of magnesia in sending the potassa rapidly to the subsoil, and thus beyond the reach of the roots of those plants which feed on the surface soil. Accepting this explanation, we have to assume that the presence of the superphosphate of lime (see No. 3) counteracts that tendency of the kieserite.

III.

Experiments with Peach Trees.

The trees were planted by Professor S. T. Maynard, at different times, beginning with 1869. Those under special treatment for the disease called the "yellows" were planted in 1870. Of this planting, those on the top of the knoll, in light soil, have shown the greatest indication of the disease, whilst those within seventy-five yards, in lower and richer lands, appear today perfectly healthy. For five years after planting the trees received but little care, and little if any manuring except that applied to grow one or two crops of corn upon the land used. No special manures were applied until 1876; and since that time only one crop (squashes) has been taken from the land, except the fruit from the trees. The land has been kept light and mellow by means of a large cultivator, and by light ploughing once or twice.

Two rows of the trees received in 1876 a dressing with two different chemical fertilizers. The trees had been planted twelve feet apart in every direction. The fertilizers were applied in a radius of eight feet around the tree, taking care to keep off about one foot from their trunks.

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of the disease, will form a most valuable addition to the present discourse. The manuscript is at the service of the Society; and the Professor, who, at my solicitation, is present, will be pleased to explain his observations if desired to do so.

The general appearance of the diseased trees suggested to my mind, at first, that an abnormal condition of the soil might be the cause. This condition might be ascribed either to a more or less general exhaustion, or to an absence of only some one or other essential element of plant food; or, finally, to the presence of some injurious substances which might have accumulated in the soil from some cause or other in the course of time. I felt inclined to consider, in either of these cases, the fungus which covers and figures the diseased parts of the trees a secondary feature of the disease. My observations of later years, with grape vines and certain plants in particular, have tended to strengthen in my mind a disregard to many of our troubles with parasitic growth as diseases of plants. I have repeatedly noticed that plants suffered seriously from mildew and blight upon unfertilized and exhausted lands, when upon adjoining fertilized plats no sign could be noticed. On the other hand, the healthy condition of the plants, even to the last stage of the disease, and also the gradual disappearance of the green color, indicating insufficient production of chlorophyll, which causes the gradual change from a healthy appearance to a sickly one, beginning with the outer termination of the branches, which is the most active part for the formation of new vegetable matter, seemed to point towards a localized trouble,—a possible interference with the normal cellular functions,—an alteration of the osmotic action of the cellular tissue, and thus subsequent death of its affected part. This view of the case found support in the well known observations of Messrs. Nobbe, Schrœder, and Erdmann (Chemnitz, 1871), regarding the action of sulphate of potassa and chloride of potassium on the growing of rye and of buckwheat. Sulphate of potassa had caused first a premature yellow color of the entire plant, which terminated with its gradual failing; whilst the chloride of potassium (muriate of potash) had caused a vigorous growth, a rich, dark green colored foliage, and a successful production of grains.

An examination of the cellular tissue of the diseased plants had

analytical results show a remarkable difference in the of the mineral constituents of the healthy and the it. The differences in both cases are most remarkable ash and lime are concerned. The difference is more n the branches than in the fruit. The diseased objects otash and more lime than the healthy ones.

uent statement contains a summary of Professor sults: —

wood shows comparatively little stored starch; but is present in the outer layers of the bark.
wood shows an abnormally small development of e invariable presence of large quantities of starch; ce of fungous growth.
eaves show the presence of fungous growth, dis- ells filled with starch.
s appears first on the surface of the trunk or ience enters the woody structure when the con- able.
le or no difference between the tissues and cell id after the leaves fall.
s is abundant on fully diseased trees, it is also es which, *once diseased, had been restored to a us health.*

tements seem to confirm some of the views en- hen planning the investigation. The results wards an interior disorder before the fungus ssue.
ier internal or external influence, or both, inau- whether the various forms of the disease are legree, or whether they are of an entirely dif- st, of course, be left to future investigation. s of a general interest rather on account of in of what they seem to me to prove.

v then read his paper, as follows: —

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he symptoms which characterize the yellows
arly separate it from blight, we have the follow-

observe a sickly yellow color in the leaves,
lly extends to the branches, and thus gives to
ellow color on account of which the disease was
given the name it now bears. The fruit ripens
two to four weeks before its season), often
ly velvety, possesses a high, unnatural color,
ened to the hectic flush of a consumptive person,
, unnatural flavor.
of wood is generally made on the main branches
the tree, or upon the trunk, in clusters of small
though not an important symptom, the older
ow large cracks in the bark, from which flow
ns. The leaves, in addition to their unhealthy
of abnormal size, often reduced to one inch in
ry many cases are curled, spotted with bright red
es, and in later stages show many perforations
es have decayed away. These, then, are the
oms by which we generally recognize the disease;
ual importance will appear as we examine more
e character of the cell contents and the peculiarities
tructure. Perhaps our purpose will be best accom-
wing the examinations somewhat in detail.
om a small growth of diseased branches upon a
quite healthy were small and yellow, but not curled,
spotted to such an extent as to be perceptible to the
Their average length was only 4.15 centimetres, —
n half the length of a healthy leaf. Under the
ere appeared the mycelium of a fungus penetrating
ar spaces. Occasionally there would be found a
ation directly through the leaf, around the margin of
t-bearing mycelium formed a delicate web. Leaves
thoroughly diseased tree averaged 6.42 centimetres
lf the length of a fully healthy leaf), were of a yellow
l with bright red or brown, and often perforated with
rge holes (Fig. 1). This, however, generally rep-

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resents the appearance of the leaves in an advanced stage of the disease. A surface examination showed slightly colored places, where fruiting branches of the mycelium were seen to project above the epidermis. Around the borders of the holes and on the red and brown spots were to be found the same fungous forms as in the previous case. A section plainly showed the mycelium penetrating the intercellular spaces and some of the cells themselves. All the cells were fairly well filled with starch. The red color, which forms so conspicuous a feature of diseased leaves, appears first in the veins and then in the veinlets, and after a time becomes manifest in the epidermis and subjacent cells of the mesophyll, generally appearing first in the immediate vicinity of stomata and near the extremity of a vascular bundle. That the discoloration is introduced through the vascular tissue appears evident from this as well as from the fact that numerous sections showed the color to be strictly confined to the veins in the first instance.

A young branch taken from a tree of fine, healthy development, before the leaves had fallen, had an average diameter of 0.51 centimetre, including the bark. It is important to note here that the tree from which these branches were taken was once diseased, but had been restored to a condition of vigorous and healthy growth by a course of special treatment extending over a period of three years. The general structure of the wood presented no abnormal features. The cells were quite regular and well formed, and in radial direction averaged 835 to the centimetre. The central pith-cells showed walls of uniform thickness, with occasional pits or thin places. Toward the wood the walls became of greater thickness, and the pits more numerous. Starch grains were present in those cells immediately bordering upon the wood, and in the medullary rays, but they could not be considered abundant. The bark likewise showed no remarkable structural features. Viewed from without by aid of a pocket lens, numerous small, sub-conical formations, often leading into large cracks, could be seen; but these formations, called lenticelles, are normal, and generally to be found on young branches about the time the epidermis is replaced by cork. While these structures are at first quite small, they eventually may lead to extended rupture of the bark. They appear, however, to serve as a convenient nidus for the growth and fruit-

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celia of which can easily penetrate the loose
r (Fig. 2). The cells of the bark, as a whole,
abnormal. Crystals of calcium oxalate were
but the amount of starch present was quite
eing minute and very much scattered. The
rn in Fig. 5.

eased branches of last year's growth, from a
e presented a very healthy appearance, had an
f 0.266 centimetre. The wood-cells showed no
ies beyond the fact that they were very small,
the centimetre in radial direction. The central
alls of pretty uniform thickness, but with numer-
e pith adjoined the wood, the cells showed no in-
of the wall or in the number of pits. All the
e wood, as well as the cells of the medullary
to be densely filled with starch. The bark
l looseness of structure and modification in the
the cell. There was an entire absence of crys-
ells were completely filled with starch (Fig. 4); in
he lenticelles were observed to be numerous, and
more frequent than on healthy branches of the
them mycelia were abundant, as well as in the
ces beneath.

ne year's growth from a thoroughly diseased tree,
verage diameter of 0.50 centimetre, showed no re-
ural features in the wood, except that the grain ap-
at more open than in fully healthy tissue. The
th-cells showed a slight increase in thickness and
as the wood-cells were approached. The outer-
, as well as the cells of the medullary rays, were
h starch. The bark showed the same structural
re observed in the last diseased branch, with this
t crystals of calcium oxalate were frequently no-
whole structure appeared looser and much more
e cells, however, were well filled with starch, and
ous growth was observed. It should be noted, how-
re will be frequently found less starch stored up in

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the youngest branches than in those which have attained an age of two or more years.

Wood of several years' growth shows the same structural features. Where the disease has operated for some time the effect is usually seen in the more disintegrated condition of the tissues, among which the mycelia penetrate and often fill large cavities which have been formed by the entire destruction of the cells. This last feature is particularly seen in the vicinity of ruptures where there are gummy exudations. In the older structure, therefore, of trees affected with the yellows, the loose character of the tissues often comes to be a marked feature of the disease. Comparing the healthy and diseased tissues, both before and after the leaves have fallen, there appears nothing essentially different from what we have already observed, either in the structure or in the amount of stored starch. On the older branches it is not an uncommon thing to find the bark deeply ruptured for a considerable distance, and about this an accumulation of gum. These ruptures apparently originate by the cracking of the bark in the vicinity of lenticelles; and as there is not sufficient vitality in the parts to throw out a proper formation of cork, a continued exudation of gum naturally follows. Decay is then introduced into the superficial layers exposed, and as growth of the next season continues, the rupture becomes deeper, but does not heal, though there is a tendency of the new wood and bark to close over the injured part (Fig. 3). These ruptures seem to be favorite places for the growth of fungi, which were more abundant there than elsewhere. The gum, when moist, affords a fine nidus for the growth and fruiting of the mycelium, which not only penetrates the bark in all directions, but enters the woody tissue also.

To give a general summary of what we have already stated, we find:—

1. The progress of the disease is comparatively slow, and generally it does not appear until after the tree is somewhat exhausted by bearing one or more crops of fruit.

2. Healthy wood shows comparatively little stored starch, but fungous growth is present in the outer layers of the bark.

3. Diseased wood shows an abnormally small development of

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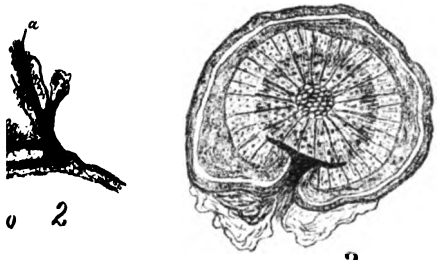

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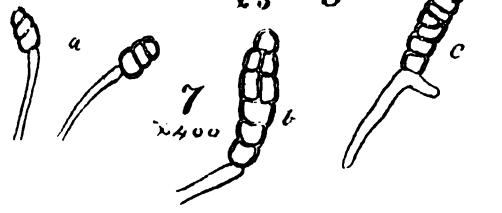

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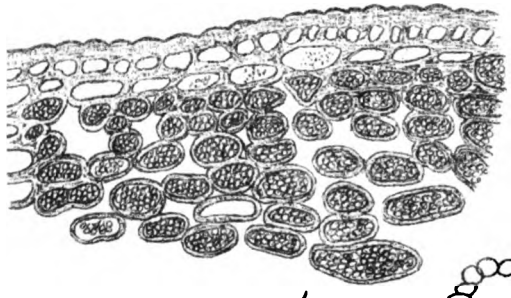

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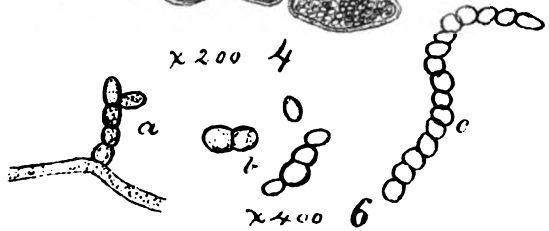

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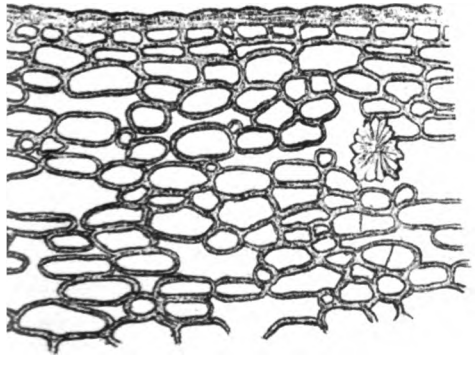

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ıvariable presence of large quantities of starch ;
of fungous growth.
es show the presence of fungous growth, dis-
filled with starch.
ıppears first on the surface of the trunk or
e enters the woody structure when the con-
.
or no difference between the tissues and cell
after the leaves fall.

Fungus.

turns to a consideration of the fungus pre-

erever there are black spots, and on the stem,
ıre gummy exudations and some decay, there
ıycelia and fruit of *Bispora monilioides* Cd.,
rs. This fungus is very common on decaying
ms black, velvety patches. The spores are
in form, and finally divide by a transverse
ıs increase in number by repeated growth and
ll apart very early, or, as is very frequently
nected in the form of long, moniliform fila-
der suitable conditions of warmth and moist-
ıultiplied in this manner with great rapidity,
thus extend over a very large surface in a
ed with this fungus, on leaf and stem, was an
a herbarum Rabh. (*Sphœria herbarum* Pers.)
ıundant it is difficult to say, but either one is
ıantity to account for the final destruction of
hey grow. *Pleospora* is quite abundant on
was chiefly recognized in this case by the
Macrosporium sarcinula) ; but the conidial
observed occasionally, chiefly on the leaves
present many strong variations in form and
so represented in the drawing, they have a
lor. *Ascomyces deformans* may sometimes
fungus peculiar to the curl of peach leaves.

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Its presence is not an essential feature of the yellows. Trees affected with the latter may likewise suffer at the same time from curl or they may not, and so *Ascomyces* may or may not be present with the other fungi.

The conditions favorable to the rapid development of fungi in general are warmth and moisture. Dryness and a low temperature both operate to retard growth in a greater or less degree. Applying these principles to seasons in their effect upon fungoid growth we should find that during a warm season of great atmospheric humidity — such as was the last summer in many districts — the conditions would be most favorable. A dry season following, development would be retarded, and the more prominent features observed in leaves of trees affected with the yellows would doubtless show little if any increase.

Discussion.

Dr. Goessmann said that nitrogen may be applied to the soil, in the case of deep-rooting plants, in the form of nitric acid. Potash chloride in considerable quantities has apparently a specific action, and the speaker was of the opinion that the chlorine must have aided in preventing parasitic growth. For the yellows he would apply three or four pounds of muriate of potash to a tree six or eight years old, in a circle of eight feet radius, but would keep it a foot away from the trunk. It would be well to mulch the ground first, and apply the muriate on the mulch in order to distribute it more evenly. A solution containing one-thousandth part of the saline is most likely the limit of the quantity of fertilizer needed in the soil. We have not yet inquired as to the effect of an excess of fertilizers in the soil; a propagating house would be the most favorable place to experiment on this point. He would give complete fertilizers in preference to partial ones wherever the conditions of the soil were unknown. He prefers applying phosphate in the form of dissolved bone-black, and nitrogen in some definite form to control its temporary supply. It is between blooming and forming the fruit that nitrogen and phosphate are most needed by fruit trees; and it is well to supply an excess, that the plant may accommodate itself. He had noticed the yellows in the

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season, first at the ends of the branches, when
nt. It might not show itself distinctly until the
f caused by exhaustion it will go on gradually;
y days, causing stagnation in the sap motion,
rowth, and may thus inaugurate internal dis-

ey said that the blight attacks pear trees in July,
seen a peach tree, when it came out healthy in
the same year. Peach trees under glass never
Col. Thomas H. Perkins cultivated the peach
ses thirty or forty years ago, and the speaker
yellows there or in England. In France and
trees all mildew; those around Paris are white
absence of yellows in Europe suggests the in-
nay not be climatic instead of being due to
udge Peters, of Philadelphia, mourned over the
, and applied every remedy he could think of,
peated at different eras since then. In 1857
destroyed by the severity of the winter.
ntly from London) said that the yellows is not
which, in his judgment, went to prove that the
t of wrong conditions of soil or atmosphere.
e atmosphere is of the highest importance in
h of trees. He had heard much talk of the
f the vine disease, but there is one principle
t, which is that all conditions unfavorable to
vegetable life favor the development of the
nder superior conditions negative. Fungi live
nd on animal rather than vegetable substances.
growth of plants, and we must give them the
d they must get it from the soil. The speaker
cing charcoal in tanks with water, when the
arbon, and if then used for watering will
hich live on the roots of plants, and the plants
nd healthy. When you render a man posi-
e proper conditions of health, he does not
the speaker felt sure that if the water pre-
him were given to peach trees at the proper

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time, they would come up strong and resist disease, and the effect would be the same on the grape vine and potato. Mr. Croucher said he had the greatest respect for science, but, unfortunately, professors are not practical men. With the increased use of artificial manures we get increase of disease in plants, just as we get increase of disease in man with the increase of artificial living. The best manure is charcoal dissolved in tanks of water to give carbon, and cow-dung to give ammonia.

Josiah W. Talbot thought that the fungus mentioned by Dr. Goessmann does not cause disease, but is a consequence. The remedy proposed by him is to apply potash, and bring the trees into the same healthy condition as the last speaker would produce by means of carbon, and then the fungus will disappear. Mr. Talbot asked whether wood-ashes would have the same effect as the potash chloride.

Dr. Goessmann replied that if the chlorine has anything to do with curing the trees of the yellows, as he supposes it has, the ashes will not answer. The reputation of wood-ashes as a fertilizer rests on the same basis as that of barn-yard manure; it is a complete but not the most efficient manure for special wants. Carbonate of potash would furnish more potash than ashes of equal weight, but is too expensive; the muriate is much cheaper. The observations of which an account has been given, afford suggestions rather than proofs of the cause of the yellows, and the remedy for it. The disease may be due to atmospheric influences; on a sultry day, as stated before, when evaporation cannot be carried on, stagnation may result and cause disease. But the elements mentioned are essential to the growth of plants, and no one of them can supersede or replace the other. This is not a matter of opinion, but of thousands of analyses; a change in the relative proportion of the same ash constituents, he finds to be accompanied, in case of the same plants, by changes in relative proportions of the organic constituents.

Hon. Marshall P. Wilder said he felt diffident in speaking, after hearing the remarks of the gentleman from the Royal Horticultural Society of London (Mr. Croucher); but he felt greatly obliged to the gentlemen who had come here to give us the results of their investigations at the Agricultural College. He had practised hor-

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fe on the basis of science. What is science but
bservations of the operations of Nature? True
l on practice, and will never be in conflict with
ience that we learn the adaptation of soils and
ɔs to each other, and that we detect the deficiency
any element that causes disease. There is no
; the improvement of science will cause disease.
now than that of our fathers. The use of fruit
mprovement. We are deriving vast benefits,
t fully understand them, from the investigations
iving their lives to the service of the Agricul-

ıg said, in reference to the remark that the yel-
ı peaches under glass, that the borders for trees
's carefully prepared. In the former part of his
nn dwelt on fertilizers as affecting the quality
ould be glad to hear more on this subject.
said he believed we may expect to control the
some extent at least. The result of his experi-
d grape was, that the quantity of sugar was
o thirteen per cent., and though sugar alone
quality, it is reasonable to suppose that we may
s. The wild beet has been changed by cultiva-
et. Tobacco fertilized with sulphate and car-
differs from that fertilized with muriate of
ts afford the basis for inquiry how further
'ected.
ted that quality depends largely on the pro-
ɔther constituents. In many places in France
ıe same variety of grape are produced on the

ıore fully attended than any previous one, and
ssors Goessmann and Penhallow were listened
nterest and attention. President Hayes said
with great pleasure to the essays from these
ıl gentlemen, who had practically made the
h they had given us the account, and he felt

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most grateful to them. He presented the following vote, which was unanimously passed: —

Voted, That the thanks of the Massachusetts Horticultural Society be given to Professors Goessmann and Penhallow, of the Massachusetts Agricultural College, for their very interesting, suggestive, and instructive essays read this morning upon the mineral constituents in plant growth, and on microscopic investigations of the diseases of peach trees.

President Hayes announced that on the next Saturday C. M. Atkinson would read a paper on "Ornamental Gardening," and also that the subject of today would be further considered.

BUSINESS MEETING.

SATURDAY, March 25, 1882.

An adjourned meeting of the Society was holden at 11 o'clock, Vice-President John B. Moore in the chair.

Hon. Marshall P. Wilder, chairman, made the following report: —

The Committee to whom was referred the duty of preparing resolutions in memory of the late Thomas Potts James, a Corresponding Member of this Society, report the following: —

Resolved, That in the sudden removal by death of Thomas Potts James, a Corresponding Member, this Society has lost one of its most highly respected associates, and one who for many years has cheered us by his frequent presence at our meetings, by his coöperation in the promotion of horticultural science, and the study of the vegetable kingdom, especially the mosses and lichens of our continent from Central America to Alaska, the results of which he was preparing for publication at the time of his death.

Mr. James removed from Philadelphia to Cambridge some years

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nected with many societies for the advancement
and. He was Professor of Botany to the Penn-
ural Society, one of the founders, and for twenty-
surer, of the American Pomological Society,
erican Academy of Arts and Sciences, Fellow
Association for the Advancement of Science,
r of the American Philosophical Society, Mem-
Society of Natural History, and of other kindred
ll the relations of life he was conscientiously
er was committed to his care. In a word, he
an upright man, and a Christian gentleman.
ese proceedings be entered on our records, and
ame be forwarded to the widow of the deceased.

MARSHALL P. WILDER,
BENJAMIN G. SMITH,
CHARLES M. HOVEY,
} *Committee.*

said that, owing to Mr. James's retiring dis-
known to all as well as he was to several of
his special province he was eminent. The
great many years ago, when he was an officer
Horticultural Society. On his visits to Phila-
the many beautiful gardens there, Mr. James
id by pointing out the best, such as those of
er, Smith, and Pratt. He probably did as
man to bring the Pennsylvania Horticultural
fulness which it has attained, and was well
bers of the American Pomological Society.
h spoke of his enjoyment of the company of
sit of the American Association for the
ence to the White Mountains. Several dis-
vere in the party, all of whom considered him
particular branch.
re unanimously adopted.

ien dissolved.

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MEETING FOR DISCUSSION.

Owing to an important engagement, C. M. Atkinson, who had been announced to read a paper on "Ornamental Gardening," was unable to prepare it. The subject of the last meeting was therefore taken up, viz. : —

Mineral Constituents in Plant Growth.

Hon. Marshall P. Wilder said that at the last meeting a gentleman spoke of carbon derived from charcoal, decomposed or dissolved in water, as a great fertilizer, and advised its use. The speaker believed this view to be wholly erroneous, and wished to correct it, lest a wrong impression should go abroad, and those who look to these discussions for information should be led into error. Charcoal is not a fertilizer. It is not easily decomposed, but nearly indestructible, and wholly insoluble in water. It is a disinfectant and deodorizer, absorbing many times its bulk of ammoniacal gas. It acts as a storehouse of ammonia and moisture, giving them out as needed by plants. Its mechanical action is to lighten the soil, and it is therefore beneficial on heavy soils, like that of the speaker. It also tends to purify it and keep it sweet. If there is any principle established in the chemistry of vegetable growth, it is that plants take their carbon from the air by their leaves, and not from the earth.

Josiah W. Talbot said that Professor Penhallow's observations on the fungus which accompanies the yellows are interesting, but have little to do with the yellows. The fungus can be found on any tree nearly girdled by borers, but never on a healthy tree. To cure a diseased tree by removing the fungus, is to treat symptoms rather than the disease. Professor Goessmann's analysis of fruits may be useful to us all, and the discovery that the quantity of sugar in fruits can be increased by using certain fertilizers may lead to important results. Mr. Hill took a hundred Baldwin apple trees from the nursery, and planted them on land of different qualities, — highly-manured ground, pastures, and fields. The low, rich soil gives the largest fruit, but in quality it does not compare with that grown on high land with only ordinary cultivation. The

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side. A cart-load of salt which remained near a ground of the speaker, through a heavy rain, n one side, and when he picked up a little pear und it salt. This has a bearing on the absorption n of plants of salt and similar substances, and artakes of the nature of the fertilizer applied to the side of the tree away from the salt were not on the side where the salt was deposited tasted brine. Dr. Goessmann stated that he spread around two or three peach trees in the college ere nearly destroyed by yellows, and they re- true, it is one of the most interesting facts ever worth a fortune to the State of Massachusetts. disposed to think it true, and the muriate a at least. Formerly there was no trouble in re. If a tree was set out, it would grow and wheat was as easily raised; but now a peach crop, and if wheat is sown it fills out and is ear, but on the same ground the second year it This the speaker accounted for by the fact that in great deal of potash, which is taken out by the rned. Dr. Goessmann supplied to the peach ich had been taken from the soil, and they with wheat; by using a fertilizer containing crops can be produced. Rye grass grown with a good crop; the guano supplies phosphates ot potash. Sometimes it is other ingredients

l asked whether apples grown larger do not erior in quality and keeping properties to

If mangel-wurzels are grown very large, it their feeding quality, and the same is true of nerally. A friend of the speaker, on Ware ided to use salt for rye on his land, and top- rate of three bushels per acre, and grew rye handsome as on new land, with clear white , well filled, and kept it up for eight or nine It was applied the land had borne only ordi-

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nary crops. No other fertilizer was used. The soil was of fair quality, but not rich. The speaker was conversant with, and observant of, these facts. In his opinion land is not generally exhausted by wheat and rye or peaches so soon as Mr. Talbot thought. A peach tree on his father's place, standing on high ground among ledges, continued to bear fruit for a generation; but peaches on new land will not do so well now. Dr. Fisher, of Fitchburg, who is so successful in raising grapes, prefers mineral fertilizers to animal manures. The speaker read this morning of a case where only mineral fertilizers had been used, and the land increased in fertility. A former President of the Worcester County Horticultural Society raised a crop of wheat with the refuse of a comb factory as a fertilizer; but when reaped, though the straw was very fine, there was not a grain of wheat. The fertilizer supplied nitrogen, but no other ingredients. There is no better fertilizer, for generation after generation, than stable manure. Chemical fertilizers may be used with it, but the makers ask too much for them. The question of their economy is not yet settled. Professor Johnson, of New Haven, expressed a doubt whether they could be used profitably; and farmers should look to that point. The speaker had seen the result of the use of chemical fertilizers, in the shape of a crop of hay in the barn, which would not pay for the fertilizers used, and he convinced the owner of it. Mr. Wetherell advised farmers to be careful not to use too much nitrogen on their crops, so as to produce coarseness and quantity at the expense of quality, and to use all commercial fertilizers cautiously and wisely.

Mr. Wilder expressed astonishment at the account given by Mr. Wetherell of the effect of salt on rye. There must have been some other cause of such crops. Muriate of soda was advertised in New York as a very effective fertilizer, and P. T. Barnum bought thirty barrels, and when his man came to use it he found it only common salt.

Mr. Wetherell said he did not relate what he heard concerning the crops of rye, but what he saw. He stated the facts, not supposing that any one would understand salt to be a fertilizer, — its action is on other substances in the soil.

The Chairman alluded to Professor Goessmann's remark that

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desire to meet the wants of farmers in
ticular crops; but this arises from re-
, rather than because it is profitable to
ıey have information superior to that
:gard to the special wants of the par-
all conditions. Dealers have manures
but they do not know so much of the
ıny one in the audience present. Dr.
:sis shows a different constitution of the
localities. Sometimes the proportion of
rent crops of the same plant may be as
cases a crop may have taken up delete-
stances mentioned by Mr. Talbot, where
ook up salt. The farmer must adapt his
rops; one may have decomposed feldspar
insoluble, furnishes more or less potash.
e as well for garden as for farm crops,
'ses have been made of the latter than of
ın of the influence of fertilizers on the
at interest. Experiments on sugar beets
ave tripled the quantity of sugar in them,
ıe with fruits. It is true that sugar alone
ity in fruits; there may be too much; but
the other way, and if we can increase the
ıits, why cannot we change the quality in
ıore thought he had improved the quality
a fertilizer composed largely of dissolved
tash. Dr. Goessmann thinks the sulphate
· the yellows; they want the muriate, and
by a mixture of salt and ashes. He says,
nts do not determine with certainty the
ıught light; but he thought the conclusions
tly probable to bring to the attention of

ıad used fine charcoal as an absorbent. It
it retains ammonia in large quantities, and
. If you put a piece into the ground and
ed years after, you will find it pretty much

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the same. Market gardeners say fertilizers will not do for them, and the reason is that they grow hoed crops on the same land year after year without the alternation of grass crops to supply vegetable matter. They must have stable manure, and they want it fresh and undecomposed to supply organic matter; but the speaker was of the opinion that fertilizers can be used successfully in market gardening. He has seen several good crops of rye raised with two hundred pounds of Peruvian guano per acre. This gives nitrogen and phosphates, but no potash. Wheat can be grown here as well as ever; he had grown it at the rate of forty-five bushels per acre (which is more than is averaged on the rich lands of the West) on a half acre for three successive years. He furnished it with phosphates and all the other food it wanted. It was an early variety of winter wheat, ripening about the fourth of July. Many have failed here from planting late kinds, which are apt to blight. He gave up growing it because the quantity he needed was not sufficient to get it milled well.

Mr. Moore said that Mr. Hovey had asked for instances of yellows developing in summer on trees which appeared healthy in spring; but there are many such cases. It is an unaccountable disease. Forty-five years ago it was unknown here, and when it came it swept everything. A tree will set fruit well; the leaves on a certain branch — perhaps one that had appeared the most vigorous, and in the centre of the tree — will take a different tinge, and the fruit will ripen prematurely, while the rest of the tree will ripen its fruit at the proper season, and will not otherwise present any appearance of disease; but the next year the whole tree will go the same way. The speaker did not believe that it is caused by fungus in the ground. He knows certainly that sulphate of potash will give better potatoes than muriate, but cannot tell why. The sulphate is more costly than the muriate, but you get more actual potash in the same weight. Whoever would use fertilizers to the best advantage must use his own judgment as to the wants of his soil. No chemist can say, when a fertilizer is put into the soil, what form it will be in in three days. If you find anything that works wonders on your soil, that is the thing for you to use.

George F. H. Markoe said that chloride of potassium and muriate of potash are synonyms. The crude muriate of potash known

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sometimes as much as twenty-five per
the varying proportions may lead to
ners as to its value. Manufacturing
:ers containing any given combinations,
›rms until mixed with the soil; then the
ıter will affect them. Chemists will not
ɜal manure, as quack doctors pretend to
. Farmers should know enough to mix
ɛlves, and then it will not take each one
that will suit his soil. Any grade of
be purchased, and if a large quantity is
ɾe an analysis made. Salt can be bought
rm than in chloride of potassium.
ıt if chemists are honest they can buy the
cheaper, and mix them cheaper, than
ıfacturers are trying to supply the fertil-
want, and it is best, in using them, to
and use our own judgment, but still to
rers to make them. Professor Stockbridge
s fertilizers, what will come nearest the
ɜ; but they may fail on some lands. The
ɒ old ground and put on Stockbridge's corn
y-five bushels of corn per acre, which did
y cents per bushel. The farmer mentioned
se hay did not pay for the fertilizer used,
ɜ times as much as was necessary. The
ɔy Mr. Wetherell as growing among ledges
r decomposition just what food it wanted.
that his friend used Stockbridge's prescrip-

that the yellows is not caused by the exhaus-
appears in new soils where there is no such

hat there are many honest manufacturers of
lea was that farmers should proceed as the
laboratory; that is, should try on a small
ıas found out what his soil needs, should get
prepare it for him.

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Charles M. Hovey was still doubtful whether a tree which was vigorous in spring ever took the yellows in summer. From his own experience he had come to the conclusion that it is climatic. He would be glad to see these experiments of Professor Goessmann succeed. His father had a peach tree, planted in 1813, which gave out in 1835 or 1836, as he thought owing to the cold weather. He thought also that the bursting of the vessels described by Professor Penhallow was due to the same cause. The yellows is not much known in the two lower counties of Delaware, where the climate is warmer and not so variable as ours; but they have it in New Jersey and Pennsylvania. Peach trees in houses, which are planted in a good border and manured from year to year, are never affected. The statements that have been made in regard to the inferior quality of fruit in low land are correct; the cells are larger than those of fruit from dryer soils and are filled with water. Fruit grown in Kentucky will not keep as well as that grown in New Hampshire or Vermont. On the same hill-slope in Germany three qualities of wine are produced, and the difference is wholly owing to the difference in the soil. The fungus which accompanies the yellows is the effect, and not the cause. It comes in after the tree is half dead, just as the stumps of elm and oak trees are covered with fungi.

Mr. Wilder confirmed what had been said of the difference in the quality of fruit caused by difference of soil. In 1867 he visited the famous Johannisberg Vineyard of Prince Metternich, and found that wine grown on the hill brought ten dollars per bottle; that from half-way down the hill five dollars; and that from the foot of the hill forty cents per bottle.

William H. Hunt said, in reference to Mr. Wetherell's account of the remarkable crops of rye produced with salt, that a field in his neighborhood has been cropped with rye for fifty years without salt, and has paid for the cultivation, producing fair though not great crops. The rye is sown in the fall, and not harvested until nearly a year after, and there grows along with it a considerable quantity of plants called "pussy-heads" (*Trifolium arvense*), which in their decay furnish much fertilizing matter.

Mr. Wetherell said that the field referred to by him was almost weedless.

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ast year was a very poor one for pota-
cord had a field of eight or ten acres,
crop with no other manure than the
vas found that the farmer mixed his
that the crop on several rows where
just as good as where the fertilizer was
land, that has not been ploughed for
l get a good crop with a little meadow-
t think that farmers could afford to buy

For twelve or fifteen years he has not
on his grape vines. He had visited the
l found that a stock of cows was kept to
e vineyard is not manured every year.
ation of scientific investigations, which
practical men," have indulged in, Mr.
aged in cultivation have little time for
it is the business of scientific men to
atever time is necessary to do it. In
ance were attacked with a disease which
the production of cocoons was reduced
to 10,000,000, entailing a loss of
All the practical men could not stop it,
le to M. Pasteur, a chemist, who had
He investigated the trouble, and found
parasite, but whether in the worm or the
e told, as it was too small to be detected
Nobody believed him; but in 1865 he took
predictions concerning them, which were
be fulfilled in all but two cases, and he
the trouble. He also showed that sheep
be protected from certain fevers by inocu-
ndall said that his work on these subjects
he whole indemnity paid by the French to
ie to practical men of such researches is
ir does not stand alone in conferring such
speaker claimed to be himself a practical
itions of the case he cannot do the work of
rs.

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As this meeting was the last of the season Mr. Wetherell moved a vote of thanks to the Committee on Publication and Discussion, for the practical and efficient manner in which they had performed the duties devolved on them by the Society.

Benjamin G. Smith, Chairman of the Committee, said that, owing to his being confined to the house for many weeks by lameness, the work of the committee had devolved largely on his associate, John B. Moore, and to him the credit of the meetings was due.

Mr. Wilder expressed his thanks to all who had aided to sustain these discussions, for they redound to the credit of the Society, and great good will result from them. He referred to the commendation of the reports of the meetings in 1881 by Mr. Meehan, the editor of the "Gardener's Monthly," who, in noticing the TRANSACTIONS of the Society, spoke of them as only second to those of the Horticultural Society of London, which Thomas Andrew Knight and his contemporaries, by their contributions, made a work of reference valuable for all time. Mr. Meehan thought it was worth while to be a member of our Society, though one got nothing more for his annual subscription than the Transactions. The speaker agreed with Mr. Meehan, and said that he had been present as a hearer at almost every meeting, and had received as much benefit from them as from any meetings he had ever attended. He was especially pleased with Mr. Moore's remarks on fertilizers, and Mr. Hunt's on the advantages of scientific investigations to practical men, at the present meeting, and he was glad to see that so many ladies had attended the meetings. He felt deeply interested in the success of the meetings, and hoped they would be continued in years to come, for the Society stands on a higher plane on account of them. The speaker quoted Daniel Webster's remark, that the association of effort, by bringing people together, is the great motive power of improvement in the present age. No other means of advancing the objects of the Society in recent years has been so effective as these meetings.

The vote offered by Mr. Wetherell was unanimously passed, and the meeting then adjourned without day.

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2. folio. in numbers. many wood-cuts. London,

Nouveau Dictionnaire de Botanique. Thick
morocco. Paris, 1870.
numeratio Lichenum. Fasciculi 1–3. 4to. 8

History, Cultivation, etc. 8vo. pamphlet. 9 col-
3.
a of Australia. 4to. pamphlet. London, 1859.
ience and Practice of Gardening. 16mo. cloth.

The Natural Principles of Landscape Gardening,
d for Perpetual Beauty. Royal 8vo. 11 plates.

rican Orchardist. 2d ed. 12mo. cloth. Boston,

Bretagne. 12mo. paper. Paris, 1879.
Fr. Otto. Icones Plantarum Rariorum Horti
is. Vol. 2, Nos. 2 and 3, 12 colored plates. Ber-

ety's Catalogue of Fruits. 3d ed. 8vo. half sheep.

d. 4to. 15 colored plates. boards. London, 1820.
's Magazine. Vols. 1–4, 1826–28; Vol. 15, 1839;
ny cuts. half calf.
Additional Supplement. 8vo. pamphlet. London,

s Directory. New edition, notes and appendix.
, 1822.
ral Repository. Vol. 3, Nos. 1 and 2; Vol. 6,
l. 7, Nos. 1 and 3; Vol. 8, Nos. 1 and 2. 8vo.
. Notes on the Propagation and Cultivation of the
o. pamphlet. 6 plates. Madras, 1863.
ening omtrent eenen niewen Cycadëen-vorm in
let. 1 plate.
n. Select Plants for Cultivation in Victoria. 8vo.
76.
ree Planter. 8vo. boards. London, 1803.
omplet du Jardinier, etc. 4 vols. 8vo. 13 plates. half

3 vols. large 8vo. 144 colored plates. half calf.
plates wanting.)
3d ed. 16mo. boards. London, 1837.
des Champignons. 3me Livraison. 4to. Paris,

ety, Journal of. Vol. 14. half morocco. 2d series,
, and Vol. 7, Part 1, in parts; Vol. 14. half green

s, Joseph. Monographia Generum Aloes et Mesem-
lli 4, 5, and 6. 4to. 160 plates, partly colored.
. Bonn, 1836–63.
landbook of Hardy Herbaceous and Alpine Flowers.
Edinburgh and London, 1871.
tæ, etc. 1 vol. text and 1 vol. with 100 colored

Nouvelle Iconographie des Camellias. Large 8vo.
th. Gand, 1853.
Flora Lapponica. 8vo. paper. Berlin, 1812.
ervations on Modern Gardening. Illustrated by de-
ll sheep. London, 1771.

riodicals, and other miscellaneous publications.

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A HISTORY

OF

AMERICAN HORTICULTURE.

The attention of Trustees and Librarians of Public Libraries, and of Horticulturists generally, is called to the History of the Massachusetts Horticultural Society, for fifty years, from its foundation in 1829. This work will be found of general interest, as the introduction comprises a sketch, much fuller than exists elsewhere, of the History of Horticulture in the United States, from the settlement of the country to the foundation of the Society, and the history of the Society onward is, in the language of President Hovey, in his address at the dedication of the present Hall of the Society, "the History of Horticulture in our country." It is handsomely printed, on an extra quality of paper, and embellished with a fine steel engraving of Gen. H. A. S. Dearborn, the first President, and heliotypes of the two Halls erected by the Society. Among other interesting matters, it contains an account of the foundation by the Society, of Mount Auburn Cemetery, the parent of all similar cemeteries in the country.

The work is furnished to members of the Society at cost, $2.50, and to others than members for $3, but will be supplied to public libraries and booksellers at the same price as to members. Please address the Secretary of the Society, at Horticultural Hall, Boston.

ROBERT MANNING,
Secretary.

Press of Rockwell & Churchill, 39 Arch Street, Boston.

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NSACTIONS

OF THE

Horticultural Society,

HE YEAR 1882.

PART II.

BOSTON:
D FOR THE SOCIETY.
1883.

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NSACTIONS

OF THE

ts Horticultural Society,

THE YEAR 1882.

PART II.

BOSTON:
D FOR THE SOCIETY.
1883.

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ublication and Discussion, take this oppor-
hey have heretofore stated, that the Society
nsible for the certainty of the statements,
pinions, or the accuracy of the nomenclature,
iscussions now or before published, all of
credit or judgment of the respective writers
y undertaking only to present these papers
the substance of them, correctly. The
ituity for an Essay is not to be understood
ommittee approve it in every particular, but
it calculated, *on the whole*, to promote the
ulture.

BENJAMIN G. SMITH, *Chairman*.

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ANSACTIONS

OF THE

tts Horticultural Society.

JSINESS MEETING.

SATURDAY, April 1, 1882.

ed meeting of the Society was holden at 11
JOHN B. MOORE in the chair.

, Treasurer of the American Pomological
e President of that Society, presented four
igs of the Society at the session in Boston,

ay, May 6.

JSINESS MEETING.

SATURDAY, May 6, 1882.

ng of the Society was holden at 11 o'clock,
ES, President, in the chair.

Vilder moved that a Committee be appointed
in memory of the late Charles Darwin. Mr.

s now known throughout the civilized world
as lost one of its most distinguished promo-
Dr. Charles Darwin, the friend of our own
therefore, refrain from expressing the desire

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that some notice of this event should appear on the records of our Society. As a progressive man in the study of the natural sciences, no one in the world has stood so high in the estimation of universities, academies, and scientific institutions. His various works on the origin of species, the variations of animals and plants under domestication, his arguments in favor of the doctrine of evolution, and his other works, present an immense number of facts which are in themselves an encyclopædia nowhere else to be found, by which the relations of animal and vegetable life are brought into harmony, constituting one grand system of organisms for the development and improvement of both animal and vegetable life. No man since the days of Thomas Andrew Knight and Dr. Lindley, has done so much as a physiologist to advance the science of horticulture. The variations of species, upon which botanists formerly looked with indifference, have become, as it were, in the hands of this practical horticulturist, the basis of a great theory for the improvement of everything which the earth may produce. Without giving an opinion in regard to the Origin and Progress of Species, the world owes him a debt of gratitude for what he has left us in his works on fertilization by insects, on cross fertilization, on the hybridization of species, and other subjects which must have a direct bearing on the successful labors of the gardener and farmer in all future time. "No more persuasive apostle of natural theology, or more powerful advocate of the argument furnished by design and adaptation, ever lived, than Charles Darwin."

I propose, therefore, that a Committee be appointed by the Chair to present resolutions on the death of Dr. Charles Darwin.

The motion was carried and the Chair appointed Dr. Asa Gray, Mr. Wilder and Charles S. Sargent, as the Committee.

Mr. Wilder presented the following preamble and resolutions in memory of Professor Joseph Decaisne, of Paris, drawn up by Charles M. Hovey, who was unable to present them on account of illness.

The Massachusetts Horticultural Society, having learned with profound regret of the death of M. Joseph Decaisne, the eminent French Botanist and Horticulturist, and a Corresponding Member of this Society, deem it their duty to place on record their recognition of the valuable services he has rendered, both at home and abroad, in the elevation and advancement of the science to

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. Entering the Museum of Natural History
ıces of Paris in 1826, as a garden boy at the
is assiduity, observation, and perseverance,
drien de Jussieu, he became so thorough and
, that in 1851 he was placed at the head of the
occupied by the learned M. de Mirbel. He
of the "Revue Horticole" and of the "Flore
3 to 1851, and during that period, in connec-
and M. Le Maout, published several valuable
ınd Botany. But his crowning work was the
Museum," begun in 1858 and completed in
ı is in the library of this Society.

', That while we deplore the death of so emi-
ıevere loss which science thereby sustains, we
high appreciation of his long and arduous
o botany and horticulture in all their branches.
on the anatomy and physiology of the Algæ,
mor and of Arabia, show the scope of his
tudies, as his Jardin Fruitier gives evidence
ledge of our popular fruits. In the language
or, in a notice of his death, "all the world
ted deference, and the respectful considera-
unds the self-made man."

ese resolutions be entered on the records of
a copy be forwarded to the family of M.

ving the passage of the resolutions, spoke of
s most eminent in Botany and Horticulture,
cquaintance with him.

re unanimously passed.

ıer stated that funds would be provided to
ow Gardening, similar to those offered in 1878,
mmittee be appointed to take charge of the
ı was carried, and the Chair appointed as that
Wilmarth, E. H. Hitchings, Mrs. H. L. T.
I. Gill, Henry Ross, Mrs. C. N. S. Horner,
od.

ıed persons, having been recommended by the

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Executive Committee, were, on ballot, duly elected members of the Society:

WILLIAM H. BADLAM, of Dorchester.
Hon. NATHANIEL F. SAFFORD, of Milton.
THOMAS DUNN, of Newport, R. I.

On recommendation of the Executive Committee, the following named persons were elected Corresponding Members of the Society:

CHARLES JOLY, of Paris, France.
MAX LEICHTLIN, of Baden Baden, Germany.
Prof. EDWARD REGEL, of St. Petersburg, Russia.
VICTOR LEMOINE, of Nancy, France.

Adjourned to Saturday, June 3.

BUSINESS MEETING.

SATURDAY, June 3, 1882.

An adjourned meeting of the Society was holden at 11 o'clock, Vice-President JOHN B. MOORE in the chair.

A letter was read by the Secretary, from H. P. Stone, one of the Executors of the estate of George A. Stone, of Rochester, N. Y., proposing to offer a premium of one hundred dollars for the best specimens of the Pocklington Grape, to be shown at the Annual Exhibition of the Society in 1883, the premium to be awarded by the Society's Committee. It was moved by John C. Hovey, and seconded by Aaron D. Capen, that the proposition be accepted. The subject was fully discussed by William C. Strong, E. W. Wood, Hon. Marshall P. Wilder, John C. Hovey, J. H. Woodford, Robert Manning, and the Chairman of the meeting. The motion was carried, and the subject was referred to the Committee on Establishing Prizes, to fix the number of specimens to be exhibited and other details.

The chair was then taken by the President, Hon. FRANCIS B. HAYES.

The Librarian announced the donation by the Société Nationale

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ure de France, of twenty-three volumes of
offered the following resolution, which was

Society would express its gratification at the
ondence begun more than fifty years ago by
1. Dearborn, with the National Central Hor-
ance, and its thanks to that Society for the
ee volumes of its publications.

BALLARD, of Hingham, and
FROHOCK, of Malden,

led by the Executive Committee, were, on
nbers of the Society.

1 dissolved.

SINESS MEETING.

SATURDAY, July 1, 1882.

the stated meeting of the Society, which
o quorum was present, and the meeting
y, July 8.

SINESS MEETING.

SATURDAY, July 8, 1882.

of the Society was holden at 11 o'clock,
NCIS B. HAYES, in the chair.

persons, having been recommended by the
were, on ballot, duly elected members of

3. HARRINGTON, of Salem.
I. MARTIN, of South Boston.
. WOOLSON, of Passaic, N. J.
t, of Groton.
. HART, of Boston.

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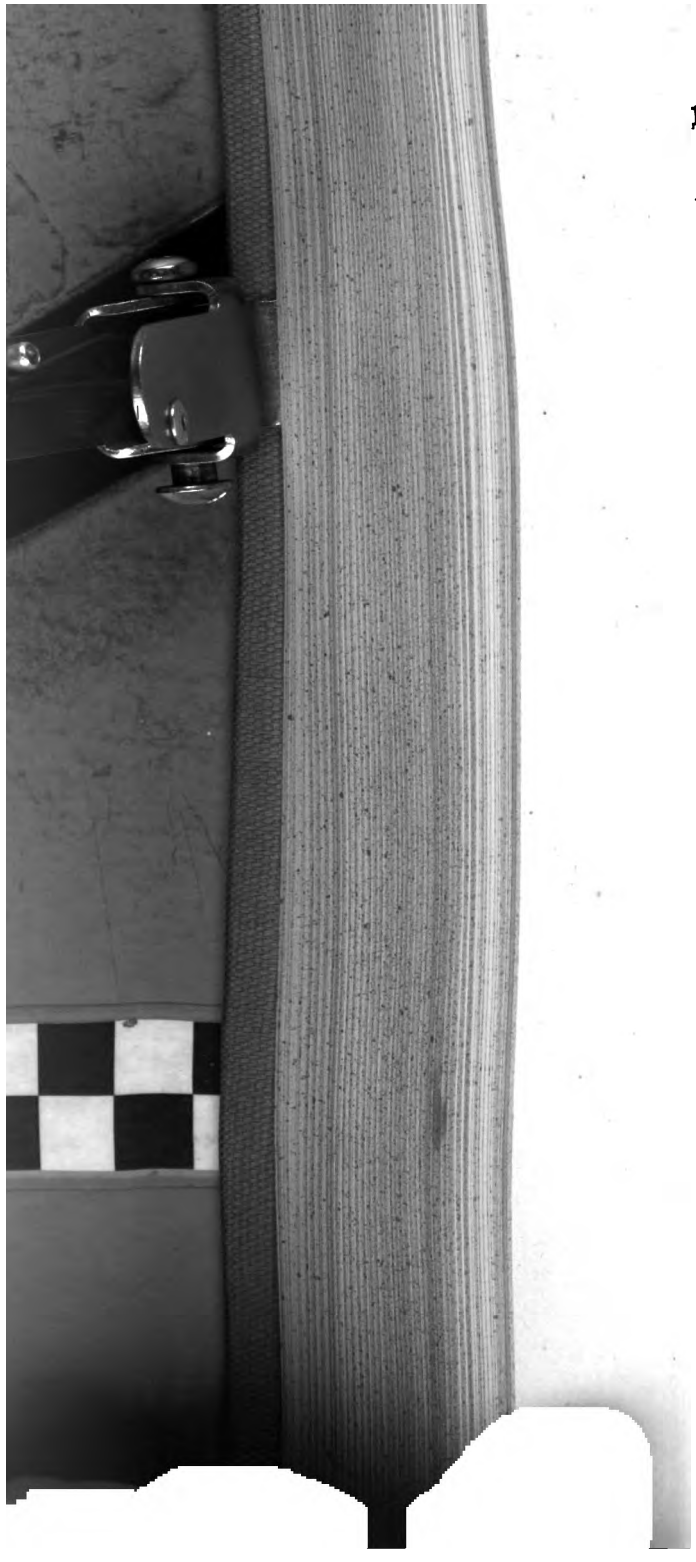

The Secretary announced the receipt of letters from H. J. Veitch of Chelsea, England, Charles Joly of Paris, Victor Lemoine of Nancy, France, and Dr. Edward Regel of St. Petersburg, Russia, accepting, with thanks, the Corresponding Memberships in the Society to which they had been elected.

Adjourned to Saturday, August 5.

BUSINESS MEETING.

SATURDAY, August 5, 1882.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

Agreeably to the Constitution and By-Laws the President reported the following Committee to nominate suitable candidates for the various offices of the Society for the ensuing year: Hon. Marshall P. Wilder, Chairman; William C. Strong, William H. Spooner, Charles H. B. Breck, John C. Hovey, Charles F. Curtis, Charles N. Brackett.

Adjourned to Saturday, September 2.

BUSINESS MEETING.

SATURDAY, September 2, 1882.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

Hon. Marshall P. Wilder, Chairman of the Committee appointed at the last meeting to nominate candidates for Officers and Standing Committees for the next year, reported a printed list, which was accepted and laid on the table.

On motion of John B. Moore, it was voted, that the Nominating Committee be continued and requested to nominate candidates in place of any who may decline before the election.

The following named persons, having been recommended by the

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were, on ballot, duly elected members of

WORTHINGTON, of Boston.
BOTTOMLY, of Belmont.
E. BRIGHAM, of Boston.
HUNNEWELL, of Wellesley.
GRAY, of Malden.

a dissolved.

SINESS MEETING.

SATURDAY, October 7, 1882.

the Society, being the annual meeting for was holden at 11 o'clock, the President, s, in the chair.

tary stated that the requirements of the ws, in regard to notice of the meeting, had

William H. Spooner, Leander Wetherell, ommittee to receive, assort, and count the the number.
l at twenty minutes past 11 o'clock.

ated at the Meeting for Discussion on the in measurements and other information in wise Interesting Trees, were called on by ted progress, and an informal discussion nteresting facts were stated, which will be of the Committee. Charles W. Kennard ittee.

persons, having been recommended by the were, on ballot, duly elected members of

I. WELD, of Jamaica Plain.
. PIERCE, of Lincoln.
XON, of Melrose.
FLETCHER, of Belmont.
. FLETCHER, of Belmont.
NN, of Boston.

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The polls were closed at twenty minutes past twelve o'clock, and the Committee to receive, assort, and count the votes, reported the whole number to be forty-three, and that all the persons whose names were on the ticket reported by the Nominating Committee were chosen. The report was accepted, and the persons named were, agreeably to the Constitution and By-Laws, declared by the President to have a majority of votes, and to be elected Officers and Standing Committees of the Society for the year 1883.

Adjourned to Saturday, November 4.

BUSINESS MEETING.

SATURDAY, November 4, 1882.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

John C. Hovey, from the Executive Committee, reported a recommendation that the Society appropriate the following named sums for the year 1883.

For Prizes and Gratuities,	
For Plants and Flowers	$1,500
Fruits	950
Vegetables	500
Gardens and Greenhouses . . .	100
For the Committee on the Library, for the purchase of Magazines and Newspapers, binding of Books, continuing the Card Catalogue of Plates, and the Incidental Expenses of the Committee . . .	400
For the Committee on Publication and Discussion	150
For the Expenses of the Committee of Arrangements	300

The report was accepted, and, agreeably to the Constitution and By-Laws, was laid on the table until the first Saturday in January.

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Marshall P. Wilder, J. W. Manning was
on Large and Interesting Trees.

persons, having been recommended by
ee, were, on ballot, duly elected members

DEMAR, of Lexington.
. SIMONDS, of Lexington.
F. SMITH, of Concord.

y, December 2.

SINESS MEETING.

SATURDAY, December 2, 1882.

g of the Society was holden at 11 o'clock,
NCIS B. HAYES, in the chair.

Needham, and James Hewins, of Med-
nembers by William H. Spooner.

f the Committee on Plants and Flowers
Spooner, Chairman.
f the Committee on Fruits was read by

f the Committee on Vegetables was read
Chairman.
the Committee on Publication and Dis-
jamin G. Smith, Chairman.
the Committee on the Library was read
Chairman.
his Annual Report as Secretary and

severally accepted and referred to the
n.

airman of the Executive Committee, re-
s to be offered for the year 1883, with
mmittee. The report was accepted, and

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the list was laid on the table for two weeks, for examination by the members.

Benjamin G. Smith, Chairman of the Committee on Publication and Discussion, announced that the first of the series of Meetings for Discussion the present season, would be held on the next Saturday at 11 o'clock.

Adjourned to Saturday, December 9.

BUSINESS MEETING.

SATURDAY, December 9, 1882.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

Hon. Marshall P. Wilder announced the death of Henry Winthrop Sargent, an Honorary Member of the Society, at Fishkill-on-the-Hudson, and moved the appointment of a Committee to prepare memorial resolutions. Mr. Wilder spoke of Mr. Sargent's interest in arboriculture and landscape gardening as such that he might be called a tree scientist. He was a friend and neighbor of A. J. Downing, and after the death of the latter, Mr. Sargent edited two editions of his work on Landscape Gardening, adding largely to it, especially in the descriptions of new and beautiful trees. Mr. Wilder's motion was carried, and the Chair appointed him, with Charles M. Hovey and Charles S. Sargent, the Committee to prepare memorial resolutions.

Adjourned to Saturday, December 16.

MEETING FOR DISCUSSION.

HORTICULTURE IN MEXICO AND CENTRAL AMERICA.

BY JOHN E. RUSSELL, Leicester.

Mr. Russell said that when the Committee called on him to open the series of meetings, he was about leaving to attend the country

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Agriculture, from which he had just re-
y he felt embarrassed on account of want
Though he had for the last ten years
ure rather than horticulture, as the execu-
Board of Agriculture he looked upon this
the Board by many years, as a part of
l instruction in the Commonwealth. As
ding he saw in it an evidence of the ad-
d a part of the result of that progress.
es, the goddess of Agriculture, with the
owers below, this does not indicate any
er the others, for they are on an equality
is the perfection of agriculture — it is a
nly objects of utility, but of beauty, and
e state in which man was placed by the

ailed the coast of Massachusetts as Vine-
ow wrote home from Plymouth, in 1621,
vines, as well as of berries and roses.
w that miracle of vegetation, the Indian
ves, its towering plume and tuft of silk,
tropical plants, brought from the tropics
g the board of nations that would other-
our own country the present year a crop
of bushels in one hundred days from the
day of its growth from seven to ten
e wealth of the country — a wonderful

prominent in aiding the progress of
ew fruits have been introduced into culti-
here today: and it is a greater honor to
good fruit than to wear the laurels of
k carried on here will have no cessation.
ls, Moores, and Hayeses will arise and

the kindling flame of art,
the tropics' blushing spoil,
m on Nature's icy heart."

ced into Europe early in the present cen-
was a boy, it was thought pretty good

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gardening in the western part of this State to get dahlias in bloom before frost; but now they bloom much earlier. They are natives of the table lands of Mexico, where the speaker saw them in the single form, which they always bear in their wild state, and which he thought much more beautiful than the double forms into which they have been improved by cultivation, and this opinion has gained ground of late, for premiums have been offered for single dahlias. In Central America he noticed that double flowers invariably and immediately returned to the single form. All plants which are biennials here, seed the first year there. He attempted to acclimate the vegetables of this latitude there, but without success. Potatoes from California returned to their original habit the first year, and produced tubers not larger than marbles. Cabbages and other plants of the genus Brassica shot up like palm trees, and went to seed in a few weeks. The climate does not vary materially from our summer climate, but it seemed to him as though the native plants told these new-comers that there was no need to lay up a store of food, but that all they had to do was to go ahead and ripen their seed. Indian corn takes about as long a time to ripen there as it does here — say, a hundred days — and in the dry season becomes fodder, which forms almost the entire food of the cattle. Potatoes give only one crop there, though he had seen two crops grown here in one season. This year the growing season here consisted of two summers, with a dry season interjected between, which checked growth almost as much as a winter, in this respect resembling the tropical climate, where a dry season comes between the wet, growing seasons.

The exports of Mexico are of very small amount in proportion to the population of about nine millions. The people are not industrious, and the products are not valuable. The coffee tree is one of the most valuable productions. In its natural state it grows on dry, even arid, land, and produces the best quality of coffee on such soils, while that grown on low, moist, rich land is inferior. The so-called "male berry" grows at an elevation of about 3,000 feet above the level of the sea. The high table lands in the southern part of the country are well adapted to its growth. They are, however, too high for the sugar-cane, which requires rich, warm, bottom lands. These also are found in the southern part of the country, and there it can be grown year after year. Cochineal is abundant; the cactus on which the insect which pro-

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flourishes well. Corn cannot be grown as
rn part of the United States. The greater
l in this country comes from San Salvador
The manufacture of this dye requires a
l and skilful technical work, and hence
xely to become extensive. The agriculture
much injured by the many revolutions,
ers away from the haciendas into the army
ut a slovenly condition of agriculture. The
ibed in the words of the missionary hymn,
ıses and only man is vile." A sea-captain,
ico, when asked about the manners and cus-
plied that their manners were bad and their
Here the speaker saw the spectacle, which
o temperance reformers, of a people abso-
out whiskey. In Mexico and Central Amer-
le known.

ot think apples could be grown in Central
highlands. Peaches can be grown; he saw
d into boxes, and called Mallacatones by the
n every part, and pineapples in many parts.
mmerce compare with those ripened on the
e apple compares with a Baldwin. Oranges
r the ground is not too high. Grape vines
ow most luxuriantly, but produce no fruit.

r. Russell's address was on the railroads and
nite the two oceans. At the isthmus of Da-
inched together so as to be only forty-seven
ussell did not believe that the canal which
o excavate there would be built in this gen-
south. The Tehuantepec route was indicated
with locks; it is not subject to earthquakes,
canal across Nicaragua impossible. The
e was more probability of a railroad there
e harbor on the Pacific side is very open, and
is called Ventosa; the winds are tremendous,
breakwater will be required. The distance
an Francisco is fourteen hundred miles less
y the Panama route. The Panama Railroad
Lieutenant Maury, at the time it was built, a

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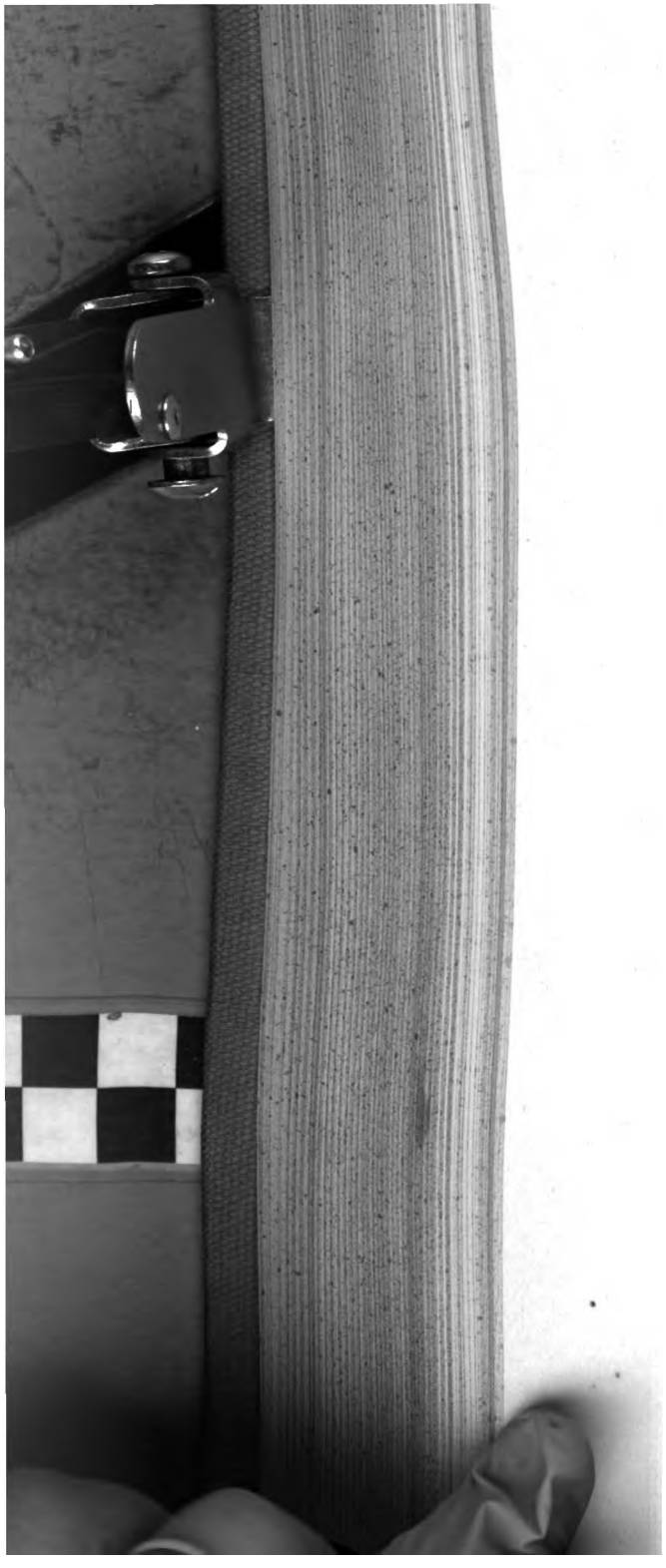

commercial mistake. The harbor of Aspinwall is so vexed with currents that it is extremely difficult for sailing vessels to enter it. Once, when the supply of ice was exhausted, the Tudor ice-ship came in sight, but was carried too far south and obliged to return almost to the Windward Islands, and they did not see her again for two or three weeks. On the Pacific side is the region of the "doldrums," or calms, where a vessel may lie for weeks, within twenty or thirty miles of the shore, with her sails flapping.

On motion of Mr. Wilder, the thanks of the Society were unanimously presented to Mr. Russell for his interesting address.

The President announced that the subject of the next meeting would be "Garden Vegetables—What new varieties deserve special mention? What foreign varieties are worthy of being introduced for cultivation?"

BUSINESS MEETING.

SATURDAY, December 16, 1882.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

The List of Prizes for the year 1883, reported at the meeting on the first Saturday in December, and then laid on the table for two weeks, was taken up, and, after some amendment, was adopted.

On motion of E. W. Wood, Chairman of the Committee for Establishing Prizes, it was voted that that Committee be authorized to add to the Schedule any Prizes for which the means may be provided outside of the funds of the Society.

The Secretary presented an invitation from Parker Earle, President of the Mississippi Valley Horticultural Society, to the members of this Society to attend the Annual Meeting of the first-named Society, at New Orleans, February 21 to 24, 1883. The thanks of the Society were voted for this invitation, and the Secretary was directed to communicate the same.

Adjourned to Saturday, December 23.

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ING FOR DISCUSSION.

— THE NEW VARIETIES DESERVING SPECIAL E FOREIGN VARIETIES MOST WORTHY OF BEING CULTIVATION.

who had been appointed to open the subject, ervative in regard to the introduction of new not necessarily better than the old kinds. d they are cultivated with special care, which ed when they become common, and hence they their reputation. He intended to speak only ough of recent origin, have been tested and putation. He began with squashes, naming ariety of American origin, and very fine in ome and having fine-colored flesh, of excel- good keeper. It makes a very handsome and is desirable for amateurs, but will not mers, not being sufficiently productive. The new in one sense. When the speaker began ard, he soon found the squashes were of two variety, was dark green; the other was of a tter he did not like, and accordingly bred it on of the true kind for seed. A gentleman in rent course, and bred out the dark ones and ntil the type was established. Mr. Gregory's to the latter, and he introduced it to the notice he name of Marblehead. It keeps well, and a higher price than the Hubbard. Like the le for amateurs and fairs, but it is not a good kind the farmers want. The Essex Hybrid is ariety, originated by Aaron Low, of Essex, the Turban and Hubbard. It combines the y of the Turban with the hard shell and long ard. It is a rapid grower, and may be planted of July, or in connection with a crop of early are recommended, when the potatoes are ry fourth row vacant, and afterwards to plant et apart. Early potatoes can be dug without

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interfering with the squashes, and if they are not dug until autumn, the squash vines keep the soil around them cool, so that they are not injured by remaining in the ground. Another advantage of late planting is that the maggot, which in many parts of this State is the worst enemy of the squash, can be avoided thereby. The fly has probably deposited its eggs elsewhere before the late squashes are ready. Another preventive of this insect is, after the vines are well set and have begun to run, to draw the earth over the root to the depth of six inches, and two feet in diameter. This will not injure the vines. Mr. Ware said he had not tried this, but was told of it by a friend, whose authority he considered trustworthy. The American Improved Turban is the best early squash, not excepting the Marrow.

Mr. Ware said that, coming from Marblehead, he could not omit to speak of the cabbage crop, which, at a meeting of the farmer's club there, was decided to be the most profitable farm crop. Fottler's Improved Brunswick is of German origin, but improved in this country. The original Brunswick was the best early cabbage, and Mr. Fottler has sold the seed of his improved variety for its weight in gold. It has now had a run of some years, and has gained in size but lost in earliness. It is not so solid as some, but shows well in the market. It was formerly preferred in Marblehead to the Stone Mason, but now is found less reliable. The Stone Mason was raised about forty years ago, from a package of seed received from the United States Patent Office, by John M. Ives, of Salem, who gave some to John Mason, of Marblehead. This produced about twenty varieties, one of which Mr. Mason liked the looks of so much that he saved and improved it. It was afterwards improved by John Stone of Marblehead, and thus acquired the name of Stone Mason. The speaker thought it perfectly reliable, and the best variety ever introduced. It makes solid heads, of excellent quality. It is not as early as Fottler's. The old Savoy cabbage was of fine quality, but very uncertain in heading, and made large stumps. The American Improved Savoy, Mr. Ware thought, was improved from the old variety in the vicinity of Marblehead. It preserves the fine quality of the original, and has a small stump and a large head, and is now thoroughly established.

The farmers of Essex County have grown many carrots, and finding the Long Orange too long, and the Early Horn not

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careful crossing and selection, gained an with small tops, of which the speaker had s on an acre, and can calculate on twenty- hly established as a valuable acquisition. ıad been compelled to dwell more than he ounty productions, but the Marrow, Butman, 's Hybrid squashes were all originated or County, as were also some of the cabbages

he value and importance of a succession of arly varieties formerly raised were not sweet, ave sweet corn from the earliest ripening to head is earlier than any other, even the Nar- sota. The stalks are small and the ears are ground. Mr. Ware recommended to plant ties, of different degrees of earliness, at the w weeks later to plant again; and in this way ld be sufficient to ensure a supply. A good ehead, Crosby's Early, and Moore's Early; and Marblehead Mammoth, Burr's Improved, or

otatoes is difficult to handle, because so many introduced every year. Since the Early Rose ld for three dollars a pound, and a cow was tuber, the farmers have seemed to be crazy on ıe country has been flooded with new varieties, lings from the Early Rose, and some of them, ht, better. Burbank's Seedling, which origi- , is a better cropper than the Early Rose, white- ellent quality, which it retains late in the season. established variety. The Early Ohio is earlier se, productive and of good quality, with all the st-class variety. Goodrich's Seedling was origi- l, Mass., by the cultivator whose name it bears. of twenty-five dollars, offered by the Essex ety for the best seedling potato after a trial of early, a strong grower, a good cropper, keeps od quality. All the above-named potatoes are Early Rose. So also is Clark's No. 1, which w Hampshire, and resembles its parent; it is

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of excellent quality and a great yielder. The Belle is a newer variety; several gentlemen, who have carefully tested it in competition with twenty of the best varieties, claim for it better qualities than are possessed by any other. It is very productive, and remarkable for uniform size, of pinkish color, long, oval, somewhat flattened, and keeps its quality late. It is sometimes difficult to decide which potato is the earliest; a few days' greater earliness does not amount to much and may not exist. If quality must suffer for the sake of earliness, the latter is not of much account; we should study for quality first.

Of Tomatoes the Paragon and Acme are the best; for the table the Paragon is ahead of any other.

Among Peas, the American Wonder, which originated in Canada, from a cross between the Champion of England and the Little Gem, is rightly named. It is the greatest acquisition lately gained among peas. The vines are very small, but bear more peas than large vines. The peas are sweet and wrinkled. A succession of green peas is necessary to a perfect table, and Mr. Ware secures this as with corn, by planting three or four varieties ripening in succession. The Dan O'Rourke, or any of that family, may be taken as the standard for earliness; after that may come the American Wonder, then McLean's Advancer, and then Champion of England. If these are all planted at the same time, three plantings will be sufficient. The late ones are not very reliable, being apt to mildew; but it is worth while to make the attempt to raise them, for nice green peas late in the season are a great luxury.

Of Turnips, Mr. Ware recommended the White Egg, as most reliable for a crop. Formerly, the Purple Strap Leaf was thought best, but the White Egg is now preferred, though it is not quite so early as the Purple Strap Leaf. It belongs to the class of flat turnips, is handsome, large, tender, and sweet, and a valuable acquisition as a fall variety. Mr. Ware closed by repeating that he had not attempted to speak of other than established varieties.

Hon. James J. H. Gregory was next called on, and said that, from his position as a seedsman, he was embarrassed in speaking on the subject before the meeting. Yet he felt an interest in it, not only as a seedsman but as a farmer, and he wished to treat everything according to its real value. It is the business of seeds-

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new things, and introduce such as are
Gardeners cannot afford to plant what is
foreign vegetables, like the Soja bean,
ious food in the world, and plays a very
e, are of no value here. The Little Gem
mateurs, but the color is too pale for pies,
arket. The Hubbard, Butman, and Mar-
introduced to cultivation by the speaker.
ught into Marblehead nearly ninety years
d by a woman who died last year at the age
Butman was originated by Clarence Butman,
ry's account of the origin of the Marble-
brought from the West Indies by Skipper
differing from Mr. Ware. A gentleman at
Gregory a squash resembling Stanley's.
s first cultivated, we had also the Middleton
n variety, and the two got mixed, and this
e Blue Hubbard; the Marblehead, though
olor, is an entirely distinct variety. The
ead do not yield as well as the Hubbard,
perior in quality to any other squash grown,
ised its cultivation, believing that it would
it is worth. We should not throw away a
it is not immediately profitable. We have
est market gardening in the world in some
nt to get the finest specimens of fruits, and
bles. When the Hubbard squash and Early
st offered to the market-men they were re-
xpects to grow finer melons in his own grounds
the market. He had several times made the
urban and Hubbard isolated, which produced a
as the Essex Hybrid, but the progeny sported
not think it wise to introduce it. He thought
it was mistaken in regard to preserving squash
the maggot, by covering with earth. Possibly
vigor of the vines, and so enable them to with-
maggot. But the maggots are found all along
taken nineteen out of one vine.
d of Fottler's Brunswick cabbage came from
n seedsman, and we have not got far from the

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original. The Stone Mason cabbage has one fault, which is more noticed by seedsmen than by farmers,—a tendency to rot at the stump. The American Improved Savoy came originally from Comstock, of Connecticut. The Burbank's Seedling potato was originated by Luther Burbank, of Lunenburg, to whom the speaker paid one hundred and fifty dollars for the stock, and after whom he named it. It is decidedly later than the Early Rose. We need early varieties of potatoes, as they are less liable to injury by the potato beetle, the last brood of which is the worst. The Early Ohio was raised by a Mr. Reese, of Ohio, and is a standard early variety in the West, and first class here on low land. The Belle is no better cropper than the Late Beauty of Hebron; it is much like the White Elephant.

The Marblehead Mammoth corn originated from a very long ear of sweet corn obtained in Messrs. Burr's seed store; by years of careful selection it has become a very early mammoth variety. The Marblehead Sweet corn was gained by selection from the Narragansett, and was not originated in Marblehead. Potter's Excelsior is white and sweet.

The American Wonder pea, Mr. Gregory thought quite as early as the Dan O'Rourke. The Hancock's Early pea is the best of the early yellow hard peas, and gives the most satisfaction. Laxton's Earliest and Ferry's First and Best have proved identical. A cross has been made between the Alpha and American Wonder, but it is not yet fixed. The John Bull pea is very large podded, and has large peas, filling out the pods well. The vines and leaves are stocky. It is the best of the stocky peas, which do not generally fill out well. Carter's Stratagem is desirable for amateurs. Ours is not a pea climate like the moist, cool climate of England.

The White Egg turnip is a first-class variety—new and very distinct. The Early Munich is earliest of all, and a decided acquisition. The Extra Early French turnip was recommended by the speaker for trial. The Improved White Spine Cucumber is different from the common White Spine, and an improvement on it. Tailby's Hybrid is a fine kind; it has given great satisfaction. In England they like smooth-fleshed cucumbers without seeds, such as the last named. The Marblehead Early Horticultural bean is the earliest of all the bush varieties; it resembles the Bush Horticultural. The speaker also recommended the Broad Wax Pole bean.

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is the same as the Excelsior, and quite
n forty to seventy pounds. The Long
arly. The Valencia melon is a yellow-
e. The Surprise muskmelon is yellow

said that Henderson's Early Drumhead
may be followed by a crop of squashes.
Wyman and larger than the Wakefield.
ivation of Brussels sprouts and Sea-kale,
r markets, though grown in the gardens

that he cultivates Brussels sprouts, and
me months. Sea-kale had not done so

hat the natural soil for Sea-kale is a deep
sandy loam trenched two and a half feet
Permanent beds should be laid out four
inch alleys. The seed should be sown in
inches apart in the centre of the bed, and
t in the row, each plant opposite the space
row. Each bunch should be thinned to
t before the ground freezes in the fall, take
and place on top of the bed, covering the
om nine to twelve inches in depth. Then
y-ways with strawy manure or leaves, and
the same material. If desirable, as soon
her has passed, hot manure may be substi-
aterial in the alley-ways. In this way he
from Christmas onward, and here in April.
will require no aid from hot manure. As
, the manure should be removed from the
aced, and the crowns cut clear over if they
too high. After the cut-over crowns have
r them and remove all superfluous crowns,
own will form four or five more than are
e will discover many little items that go to

rows four feet apart, and thin out to twelve
rt, and when large enough, lift and heel in
and level with the soil, just as they grew.

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nd cropper, and, with the Hubbard, will
ason. The idea of keeping away the
piling earth over the root is fallacious.
oes along, and the true method is to wait
.

not conceive how any one could eat any
. The American Wonder is all that has
so nearly as early as the Dan O'Rourke
nile to cultivate the latter. McLean's
kshire Hero is more satisfactory than the
t is of as good quality, a better cropper,

at the Marvel pea supersedes the Ad-
ent cropper. The American Wonder is
dens; the rows may be made only fifteen

the Egyptian corn is later than Stowell's.
Wonder pea two seasons before getting
Moore is right in regard to the Yorkshire
arf Mammoth is a splendid family pea.
sembles the Casaba. Livingston sent out
tomatoes mixed.
hat the early hard yellow peas, like Dan
poor sandy land and come to perfection
ights. The wrinkled peas, like the Ameri-
ve a moist soil or they will suffer from

at the subject for the next Saturday would
he Tomato gained in earliness during the
l how has the gain been secured? Which
narket and which for amateur use? What
growing and keeping Celery for winter use,
riety?" To be opened by William D. Phil-

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l show the cause of the disease and the
ting it. If the matter is taken in hand,
e highly pleased to help in every way I

of the "Scientific Roll" to you.

I am yours faithfully,

A. RAMSAY.

December 30.

G FOR DISCUSSION.

IATO GAINED IN EARLINESS DURING THE ND HOW HAS THE GAIN BEEN SECURED? VARIETY FOR MARKET AND WHICH FOR T IS THE BEST METHOD OF GROWING AND T WINTER USE, AND WHAT IS THE BEST

who had been appointed to open the dis-
at any gain had been made. Eighteen or
is not uncommon to have tomatoes by the
ugh he doubted whether anything had been
did think that much has been gained in
Market was, when introduced, the best
for its earliness and great productiveness,
l seedy, and is now subject to blight, and
. The Paragon is gaining in estimation,
upersede it. Earliness in tomatoes and
t so much an object to market gardeners
rly vegetables are expensive to produce,
nnot compete with Southern gardeners in
Paragon was, when introduced, rather
lection of the earliest, as well as the fairest
it has been brought two or three weeks
knew no other way of gaining in earliness
handling of the plants. Formerly, tomato
he middle to the 20th of February, and the
ut a month later, and transplanted two or
s—a very laborious method, now abandoned.

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ture must be kept as near freezing as
t on the under side of the boards, but
out right. If too warm it must be aired,
etter not to air it. The atmosphere of
small quantity, the best way is to dig a
cover with earth and then with boards to
hole with litter a foot deep and two or
trench, to keep it from freezing. It is
e celery when the litter is frozen, but it
it a delicacy.

he only kind the market-men here will look
The last season, some of the Crowfoot
it came early and met with favor at first,
s became dissatisfied with it. The crop
a considerable quantity was brought from
nts in the West, in long bunches of twelve
for fifty cents, while the Boston Market,
om two dollars and a half to three dollars
e. The favorite variety is to a certain
ion. In New York, they tie two or three
ad sell them cheaper than we can here.
favorite variety there; it is dwarf, with no
e planted thickly. Here it is the fashion to
Henderson's, when tried, did not sell well.
of it, of a pink color, which is a little orna-

es, Mr. Philbrick said that when the celery
nough earth should be put around the roots
. A trench a few inches deep is dug across
ad another trench formed by throwing the
first trench, after the roots are placed in it,
ts should not be crowded, but, as the growers
uld be left for a rat to run between them. A
of celery is grown in drained swamp land,
best; if there is no mixture of loam, it is
en with the water near the surface, and celery
rom want of water. In such a case, the sur-
nt evaporation. But more celery is lost from
from want of moisture. Few are aware how
s. The Arlington growers apply from fifteen

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, cabbages, and celery profitable in the

of a gentleman at Fall River, who,
celery, blanches it with meadow moss.
ıcipally with what had been said by pre-
greatest troubles in raising celery are
d. The former sometimes ruins a whole
wn fifteen or twenty years. We did not
seed the first year; but ten or fifteen years
a large piece of early celery which went
was sold all over the country, and was,
ıuse of the disposition to run to seed so
he seasons are very much the same now as
ɛtter culture celery has, the better is the
uld be quickly grown on good soil. A deep
ɔle; it will stand up better on such soil
To keep well it must be healthy and kept

ık there had been any increase in earliness
rage, in the last twenty years, or so much
ɛs as some thought. The Boston Market
ɔuld not get Acme and Paragon seed pure
years ago he planted the seed of a May-
produced four varieties, differing in size,
ng other colors, there was that of the old
competition in tomatoes has been less for
ɛars than before, as the fruit must be picked
is far inferior to that ripened on the vines,
ɛs have been better. When he abandoned
mato, he chose the Emery for market, and
ɔre generally grown than any other. It is
ɛurs. The Gen. Grant is superior in quality,
pure for several years. It is rather small,
ts clean. He prefers new seed of this and
cumber and melon seed will grow when fif.
e vines are not so strong and show fruit more
it not over two years old.
that rolling land as recommended by Mr.
to general practice. Rolled land will not ab-
e at night as if the surface is loose. In his

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ppearing in the centre. The speaker
ue awhile and disappear, like some other
iits.
rket gardeners in Arlington do not earth
; is apt to smother it, and causes blight.
› gradually. The wilting referred to by
low day," in September, 1881, was prob-
present before that time, and that day

ked Mr. Hill why the tomato should be
from seed, any more than the potato,

id not expect to get so many varieties from
d sowed seed of several varieties from one

seed of Trophy and Gen. Grant from the
›nly one kind. The Mayflower is not yet
me true.
he tomato the hardest vegetable to improve
e. The Trophy is fine for canning.
the Early Rose, Peerless, and Prolific po-
e Chili. The tomato is nearly allied to the
r did not see what reason there is to expect
ising seedling tomatoes from that found in
es.
ce had been the same with regard to the
the same sporting habit.
that every ovule has to be fertilized by a
› is no other plant near, the product of the
e, and all the same as the parent. If two
the Trophy and Gen. Grant, grow near each
›n the Trophy fertilized by a Trophy cell
arent, but every ovule fertilized by pollen of
ary.
t it possible that Mr. Talbot's view that the
might be fertilized so as to bring different
, but he had never heard of it. The variation
om the seed of the Mayflower, was curious.
. twelve seeds of the Mayflower, five of which
cimens. He thought we might have lost color

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NESS MEETING.

SATURDAY, December 30, 1882.

of the Society was holden at 11 o'clock,
CIS B. HAYES, in the chair.

ler, from the Committee appointed May
al of Charles Darwin, presented the fol-
ofessor Asa Gray, Chairman of the Com-

rticultural Society desires to place upon
ion of the great loss which horticulturists,
le scientific world, have sustained in the
ent Naturalist of the age — perhaps of
in the broadest as well as the highest
e prince of biological investigators, of
research and candor in exposition, of
detecting the hidden meaning of things
iry by their very commonness, and in dis-
tance of causes and interactions which had
count of their supposed insignificance, thus
haracteristics of genius.
f Darwin is most famous for his celebrated
le and order in which plants and animals
mand to multiply and replenish the earth,
ll remember that some of his character-
d fruitful discoveries relate to the objects
and to the processes in which they are en-
g and important results thus obtained surely
Horticultural Society should pay a grateful
of CHARLES DARWIN.

ASA GRAY,
MARSHALL P. WILDER,
CHARLES S. SARGENT, } *Committee.*

re unanimously adopted.

as Chairman of the Committee appointed
are a memorial of Henry Winthrop Sargent,
r of the Society, reported the following:
the decease of Mr. Henry Winthrop Sargent,

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another State, he was of our own blood,
re. He had a strong sympathy with us,
; the choicest of our horticultural treas-
bring in plants that would thrive on our
:o a considerable extent his father's talent

nanimously adopted.

the following report:
and Interesting Trees report that consid-
made in the collection of information, but
ork cannot be accomplished for some time
nanifested in this subject, both historically
with the investigations of the Committee;
ırther time to collect materials for a report
ınd creditable to the Committee who have
They therefore ask further time.

MARSHALL P. WILDER, *Chairman.*

:pted, and further time was granted to the

hairman of the Executive Committee, pre-
s for Essays proposed by the Committee on
ssion, to be offered in the year 1883, the
roved by the Executive Committee.

en dissolved.

TING FOR DISCUSSION.

:r was read by the author:

:EST BE GROWN? IS PLANTING IN DRILLS A
N IN HILLS? IS THE USE OF POTASH AS A
IVE OF HIGHER-FLAVORED FRUIT? WHAT ARE
OUR VEGETABLES, AND IN WHAT DIRECTION IS
)UIRED?.

By W. W. RAWSON, Arlington.

)e grown on land that is quite sandy and nearly
or three years after breaking up. The manure

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DISCUSSION.

uiries, Mr. Rawson said that he uses the same
thing — good stable manure, well decomposed.
er fertilizers with the manure, but used just as
Melons do not require so much manure as some
may be planted as a second crop after early

ng thought that a large percentage of manure is
ig.
d that different crops require manure in different
want it fresh, and some old. Melons are of the
ld never got good ones on fresh manure; he uses
ld hot-beds for them. They do better on land
ne crop, which has taken the strength of the ma-

ith said that he had grown one variety of melon,
n years. His experience agreed with Mr. Raw-
ell decomposed barn-yard manure largely, spread
o in the hill, and no other kind. He changes the
on patch as far as possible. He sows his melons
es (smaller above than below, and without bot-
re then transplanted easily.
lbrick thought that the reason why melons are
n as formerly, and do not pay as well, is the ap-

P. Wilder said that the melon crop is one that he
s to secure, for he likes those of his own growth
wn them on the same land for ten years. It has
He prefers old manure, which he prepares a month
l. He makes a compost of old manure and soil,
ep, adding some guano, and covering the whole
es until it is in a fervent heat, when it is thrown
e, and spread on the land, besides putting it in
lons root from every joint, surface manuring is
He plants the seed in hills under glass, in a bed
has no trouble with insects; he gets up in the
ey do, and scatters plaster of Paris around. He
t many kinds—nearly all in cultivation. The
grown by any one who can grow melons at all.

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D. Capen said that when he was in the business of growables for market, he planted squashes and melons in ring the seed as he did peas, thereby giving a supply for and a sufficient number of plants for a crop. The diffihill out sufficiently. The plants should be two or three he were to plant forty acres of squashes, cucumhe would put the whole in drills. By so doing, he rst time within a few inches of the plants, and leave better condition than it was possible to do if the hills. He knew the Casaba melon when a boy. icious. He lost sight of it until a few years ago. planted two patches on ground heavily manured in 5 home-made guano in the drills, and secured the ver saw. By covering the later ones over with he had them regularly on his breakfast table till vember.

J. H. Gregory said that he had raised melons for planting at first on sod, but now in pots. The sod is o tough that the plants appear to get root-bound and well after transplanting. He liked the idea of planting had planted his corn in drills for the last twenty years, the way of progress. He emphasized the impor- g the soil light; he would rather knock the vines n not do it. Most of the soils here are not melon e to be thrown up and made light. Mr. Dickin- ringfield, where he grows the fine melons to which en made, is light and drains readily. The old-fash- squashes and melons was to quarry out a hill, and ld hole dump a lot of manure. The modern and keep the plant food very near to the surface, for ashes want surface heat; their roots run near the strews guano on the ground just ahead of the to feed on. Most melons are picked before they here is no taste to them; they are rarely found in rated from the stem, which is the sign of ripeness . Gregory asked, Why not bring fine ripe melons thought that if the White Japan, Christiana, and red kinds were offered, they would sell for as high than the larger and coarser varieties. They might

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be introduced by advertising and presenting specimens, as he did in introducing the Hubbard squash.

We want to adapt our soils to our vegetables and our vegetables to our soils. Reclaimed meadows are apt to produce spongy vegetables, unless a silicious soil is added. In Goshen, Orange county, N. Y., a reclaimed meadow of five hundred and sixty acres was planted to onions, and, with the addition of gravel containing silica, produced capital crops. Mr. Rawson's land gets enough manure without chemical fertilizers, but the speaker had succeeded well with them. He grew twenty acres of onions with chemical fertilizers, and cabbages with guano and phosphates. Each man must find out for himself what his ground needs. Our old pastures are especially deficient in phosphoric acid.

Mr. Wilder said that dropping chemical fertilizers would be poverty and death. There were between two and three million dollars' worth sold in Massachusetts last year. You can tell about how much corn a given quantity of fertilizer will produce, and we have got to come to the use of them.

Mr. Wetherell thought that Mr. Gregory was correct with regard to one point, the too early picking of melons. We want to move in the direction of maturing for market. Melons should be grown to perfection, and allowed to reach maturity.

Mr. Philbrick said that melons perfectly ripened on the vines are undoubtedly better than if picked earlier, but it is almost impossible to market them, without their melting away. Cultivators near a market have a great advantage in the ability to place melons before consumers in the best condition.

Mr. Gregory said that he had been trying to get some one to join with him to collect facts in regard to large and interesting trees in New England, and secure photographs of them. He alluded to the many fine elms in New England, and said that not one is to be found in California. The finest one he had seen is at Weathersfield, Conn.

On motion of Mr. Wetherell, Mr. Gregory was added to the Committee on Old and Interesting Trees.

William C. Strong exhibited a fasciated branch of the Baroness Rothschild rose, so broad, flat, and prickly as to be mistaken for a branch of a cactus.

The President announced that next Saturday the subject would

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best method of repelling or destroying the In-
fruit and fruit trees, especially the Codling
; a proved success? What are the results of
aris green or any other poisonous application?"
cob W. Manning.

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REPORT

OF THE

COMMITTEE ON PLANTS AND FLOWERS,

FOR THE YEAR 1882.

BY WILLIAM H. SPOONER, CHAIRMAN.

Another year of successive seasons of varied leaf and bloom having passed, its close brings your Committee to the consideration of the varied features which have been presented to us during its passage.

We are not able to report so large an exhibit through the season as in some former years, no doubt owing to the extremely dry weather during the summer months; we shall first notice the

AZALEA AND ROSE SHOW.

MARCH 23.

The exhibit of Azaleas was not large, but some exceptionally fine plants were shown; Edward Butler, gardener to Mrs. Pauline Durant, Marshall P. Wilder, and President Francis B. Hayes were the contributors, with choice plants, the last especially presenting a group of new varieties, viz.:

Crystalline,
Kaiserin Augusta,
Louis Lubbers,
Madame Ambrose,
Remembrance of Lady Florence Hastings,
W. Wilson Saunders.

HYBRID PERPETUAL ROSES in pots were shown by Francis B. Hayes and W. J. Vass; also excellent cut blooms from W. J.

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. Moore & Son. We should be glad to see this fully represented; the commercial value of roses probably the strongest reason for the small num-'s.

LANTS were exhibited by John L. Gardner and fine Orchids by F. L. Ames; Hardy Shrubs and . Gardner and F. B. Hayes; Cyclamens in large B. Gardiner, but not as large plants as he pre-ears ago. Primulas, single and double, were ell-grown plants; the former from J. L. Gard-er from Hovey & Co.; Cinerarias from John E. lliam Patterson; Hyacinths, Narcissus, and Jon-L. Gardner; Camellias from Hovey & Co. Of ood display for the season came from Hovey & D. Wood; also bouquets from James O'Brien. Comley came Seedling Pink No. 1; color white, varf, very double large flowers, about two inches fringed edges; a profuse bloomer, raised in 1881.

ELARGONIUM EXHIBITION.

MAY 15.

gradually decrease from year to year, the only largoniums on this occasion being Hovey & Co. lay of Calceolarias was made by John L. Gard-tributed Tulips.

RHODODENDRON SHOW.

JUNE 10.

as not propitious for this exhibition, the severe autumn of 1881 injuring many plants seriously. s B. Hayes and John L. Gardner were the com-rizes, Mr. Hunnewell exhibiting as usual for the The display of Hardy Azaleas was the smallest

were shown in good flowers by Marshall P. vey & Co. The display of Cut Flowers was very

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good, by W. K. Wood, Mrs. E. M. Gill, and Mrs. L. P. Weston; Hardy Flowering Shrubs by George Craft, and Hovey & Co., and Native Plants by E. H. Hitchings. Woolson & Co., of Passaic, N. J., presented another fine collection of Hardy Herbaceous Plants, being the second large exhibit made by them of this beautiful and deservedly popular class of plants.

ROSE AND STRAWBERRY EXHIBITION.

June 30.

Progress in this department of horticulture is what we now have a right to expect, considering the great improvement made by the English and French hybridizers in the quality, variety, and perpetual blooming character of Hardy Roses. Their cultivation in this country has increased with surprising rapidity, and our own Society can justly claim a large share of the credit. The exhibition this year was grand in the quality of the flowers, though the quantity was not as large as that of last season. For the fourth time, we received the privilege of conferring prizes of silver vases, which were competed for with some of the finest flowers we have ever seen in the Hall, and we are glad to report an increased number of contributors.

Special Prizes for Hybrid Perpetual Roses.

A Silver Vase, value $75, for the best twenty-four roses of different kinds, named, was awarded to William Gray, Jr., for:

Alfred Colomb,
Boïeldieu,
Caroline de Sansal,
Comtesse d'Oxford,
Duc de Morny,
Duchesse de Vallombrosa,
Duke of Edinburgh,
Louis Van Houtte,
Mabel Morrison,
Magna Charta,
Marguérite Brassac,
Marguérite de St. Amand,
Marie Baumann,
Marquise de Castellane,
Mme. Clémence Joigneaux,
Mme. Gabriel Luizet,
Mme. L. Paillet,
Mme. Victor Verdier,
Mons. Boncenne,
Mons. E. Y. Teas,
Mrs. Baker,
Penelope Mayo,
Prince Camille de Rohan,
Senateur Vaisse.

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alue $15, for the best three roses, of different
o Francis B. Hayes, for Baron de Bonstetten,
mbrosa, and Souvenir de Louis Van Houtte.
alue $30, for the best six roses, of different va-
J. S. Richards, for

vre,	Mme. Nachury,
ielon,	Paul Neron,
an,	Princess Mary of Cambridge.

alue $40, for the best twelve roses, of different
o William H. Spooner, for

	Mme. la Baronne de Rothschild,
tten,	Mons. Boncenne,
on,	Mons. E. Y. Teas,
in,	Perfection de Lyon,
	Pierre Notting,
Dombrain,	Sir Garnet Wolseley.

alue $15, for the best three roses of any one
. Gardner, for Mme. la Baronne de Rothschild.
value $30, for the best six roses of any one
H. Spooner, for Jean Liabaud.
alue $40, for the best twelve roses of any one
Gray, Jr., for Mme. la Baronne de Rothschild.
nge Vase, value $200, for the best twenty-
e specimens of each, to be held for three con-
first season offered, was awarded to John B.

,	Marguérite de St. Amand,
ubert,	Marquise de Castellane,
	Maurice Bernardin,
vre,	May Turner,
,	M'lle. Marius Cote,
,	Mme. la Baronne de Rothschild,
Nicholas,	Mme. Gabriel Luizet,
ain,	Mme. Victor Verdier,
	Perfection de Lyon,
	Queen Eleanor,
on,	Sir Garnet Wolseley,
,	Thomas Mills.

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Society's Prizes.

For the best six new varieties of Hardy Perpetual Roses, sent out since 1877, the second prize was awarded to John B. Moore & Son.

For the best twenty-four named varieties, three of each, the first prize to John B. Moore & Son, for

Alfred Colomb,
Barthélemy Levet,
Boïeldieu,
Charles Lefebvre,
Dr. Sewell,
Duke of Edinburgh,
Duke of Wellington,
Fisher Holmes,
John Hopper,
Jules Margottin,
La Rosière,
Mabel Morrison,
Maréchal Vaillant,
Marguérite de St. Amand,
Marquise de Castellane,
Maurice Bernardin,
Mme. Marius Cote,
Mme. Rivers,
Mme. Sophie Fropot,
Monsieur Boncenne,
Paul Neron,
Queen Eleanor,
Senateur Vaisse,
Sir Garnet Wolseley.

For the best twelve distinct named varieties to William Gray, Jr., for

Auguste Neumann,
Camille Bernardin,
Charles Lefebvre,
Duchesse de Caylus,
Étienne Levet,
Exposition de Brie,
Hippolyte Jamain,
Jules Margottin,
M'lle. Bonnaire,
M'lle. Marie Cointet,
M'lle. Marie Verdier,
Star of Waltham.

For the best six varieties to William Gray, Jr., for

Baron de Bonstetten,
Beauty of Waltham,
Édouard Morren,
Horace Vernet,
Mme. Gabriel Luizet,
Mons. Boncenne.

For the best three varieties to Francis B. Hayes.

Moss Roses.—For the best six and best three named varieties, the prizes were both awarded to John B. Moore & Son.

Tea, or Bourbon Roses.—The prize for twelve cut blooms went to Edwin Fewkes, for very fine specimens.

The general display of all classes, chiefly Hybrid Perpetual varieties, was the largest and finest of the kind that has ever been

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ichards, F. B. Hayes, W. H. Spooner, B. G.
Nugent were the contributors.
on, of the Arnold Arboretum, exhibited an in-
on of eighteen species of roses of different coun-

out of place to record some personal observations
ate of blooming of many varieties of Roses, par-
te summer and autumn months.
oticed the following varieties in full bloom:

,	John Hopper,
ton,	La France,
Maynard,	Louis Doré,
,	M'lle. Bonnaire,
	M'lle. Marie Finger,
Serenye,	Mme. François Pittet,
Morny,	Princess Beatrice,
	Souvenir d'Arthur Sansal.

neron,

27, we noticed most of the above varieties in
abeth Vigneron was planted in April, 1882, and
gorous grower and a free autumn bloomer.
many of the same varieties were in bloom.
uis Doré was very fully in bloom; this rose
ted, bushy growth, and the flower stem is very
objectionable feature. The following were also

on,	Elizabeth Vigneron,
erenye (a very free	Jules Margottin,
	Victor Verdier.

lorny,

Johnson, planted May, 1882, was in full bud.
a few Alfred Colomb, Dupuy Jamain, Mme.
thschild, and Marie Baumann. Salet, James
William Paul (Perpetual Mosses) had a few buds.

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ANNUAL EXHIBITION,

SEPTEMBER 19, 20, 21, AND 22.

This exhibition was not as extensive as it has sometimes been, but the collections of plants shown were exceptionally fine. Those of Mr. Hunnewell were not as large specimens as he has shown in former years, but were remarkably choice in quality and variety, and were grouped with rare effect. S. R. Payson was a large contributor, with excellent plants, and Hovey & Co. also presented a large collection, the whole forming a display of rare beauty, and an opportunity for comparison seldom seen in our Halls. The wisdom of adding more prizes to the list of Greenhouse Plants was shown in these grand exhibits.

Mr. Hunnewell was first, with

Alocasia metallica,
Alocasia Thibautiana,
Anthurium crystallinum,
Croton nobilis,
Cyanophyllum magnificum,
Dracæna magnifica,
Ficus Parcelli,
Maranta pardina,
Maranta virginalis,
Musa vittata,
Phyllotœnium Lindeni,
Sphœrogyne latifolia.

S. R. Payson was second, with

Adiantum cuneatum,
Adiantum Farleyense,
Alocasia metallica,
Alocasia Thibautiana,
Cissus discolor,
Croton variegatum,
Dieffenbachia Bausei,
Dracæna Robinsoniana,
Encephalartos villosus,
Maranta Veitchii,
Pandanus Veitchii,
Phyllotœnium Lindeni.

Hovey & Co. were third, with

Araucaria Bidwillii,
Corypha australis,
Dasylirion glaucum,
Dasylirion longifolium,
Dion edule,
Dracæna umbraculifera,
Ficus elastica,
Kentia Balmoreana,
Kentia Forsteriana,
Pandanus ornatus,
Phormium Veitchii var.,
Seaforthia elegans.

For SPECIMEN FLOWERING PLANTS, Francis B. Hayes took the first prize with *Bougainvillea glabra*, and the second with *Allamanda Schottii*.

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D LEAVED PLANTS.—The first prize was awarded to ewell, for

macrorrhiza fol. var.,	*Croton Queen Victoria*,
ionstrosa,	*Dieffenbachia Bausei*,
Disraeli,	*Maranta roseo-picta.*

l to Hovey & Co., for

variegata,	*Campylobotrys Ghiesbreghtii*,
a variegata,	*Dieffenbachia Bausei*,
n argyrites,	*Eurya latifolia var.*

.—Hovey & Co. were first, with the following six

leu,	Meyerbeer,
	Rossini,
	Triomphe d' l'Exposition.

ovey & Co. were awarded the prize for the following :

n Mariesii,	*Nephrolepis davalloides furcans*,
Goringianum	
i,	*Nephrolepis tuberosa*,
antarctica,	*Platycerium alcicorne majus.*

—Hovey & Co. took the prize for the best six, with

lis,	*A. decorum*,
num latum,	*A. Farleyense*,
um,	*A. gracillimum.*

.—The first prize was given to Hovey & Co., for *alis.*

—H. H. Hunnewell was awarded the first prize, for

is,	*D. Mrs. Hunnewell*,
ii,	*D. Shepherdii*,
ina,	*D. Youngi.*

a took the second, with

s,	*D. Hendersonii*,
ii,	*D. Mooreana*,
	D. Youngi.

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PALM, single specimen.—S. R. Payson was first with *Cocos Bonnetti*, and Hovey & Co. second, with *Pritchardia Pacifica*.

AGAVES.—Hovey & Co. were first, with

A. applanata,
A. filifera,
A. Gilbeyi,
A. hystrix,
A. Nissonii,
A. Victoria Regina.

OTHER SUCCULENTS, Hovey & Co., for

Aloe Arborea var.,
Aloe Hoveyii,
Aspera spiralis,
Dyckia remotiflora,
Echeveria agavoides,
Echeveria Hoveyi,
Echeveria undulata,
Euphorbia polygona,
Gasteria sulcata,
Haworthia attenuata,
Haworthia coarctata,
Rhipsalis pentaptera.

GLADIOLI were shown only by George Craft, and were not as good as he has shown in former years.

DAHLIAS were not exhibited in large numbers; the contributors were John L. Gardner, Francis B. Hayes, James Nugent, and Edwin Fewkes. In single varieties the prize was awarded to E. Sheppard.

CUT FLOWERS were remarkably fine, which was unexpected, the drought having seriously impaired the beauty of most out-door flowers. Hovey & Co., Mrs. E. M. Gill, and James Nugent were the contributors.

S. R. Payson exhibited the beautiful new plant, *Asparagus plumosus nanus*, in bloom; its remarkably delicate foliage and attractive white flowers will make it a very desirable plant for decorative purposes. From Joseph Tailby came also a small plant of the above. H. H. Hunnewell presented a fine plant of the same species; also a plant of *A. tenuissimus*, a later introduction than the above, and which may prove more desirable for commercial and decorative use.

CHRYSANTHEMUM SHOW.

NOVEMBER 9 AND 10.

Without doubt this exhibition eclipsed any of the kind ever made by the Society. The Upper Hall, in which it was held, was brilliant with the lovely flowers, the general effect being greatly

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›y the plan of arrangement, which was that of massing in front of the windows and mirrors, on platforms ris--like, giving full display to the blaze of bloom, in which . blossoms of the Japanese varieties contrasted prettily ore compact Chinese, or Large Flowered sorts. E. W. d H. P. Walcott were the contributors in the larger ith beautiful plants, well grown, and in the finest con- bloom, all of superior merit. John L. Gardner also d very fine plants, and a few good varieties came from igginson. Norton Brothers and Marshall P. Wilder each large collections in smaller sized plants. The display ooms was also very effective, with a larger number of ›rs than ever before.

P. Walcott was first, with six large flowered varieties, ɜ:

.e de Neige,	Mr. Brunlees,
ɔity,	Orange A. Salter,
ır de Lilas,	Prince Alfred.

'alcott was first with six Japanese varieties:

ıny Boucharlet,	La Charmeuse,
ındiflora,	M. Delaux,
ena,	Parasol.

with four Pompones:

. Astie,	Salomon.
ɜinante,	Zobeide,

Walcott was first and second in the display of Specimen Large Flowered, with Souvenir de Mercédès and Reine ɛ.

V. Wood was first in Specimen Plants, Japanese, with ı Dragon. John L. Gardner was second, with Mme.

Walcott was first in Specimen Plants, Pompone, with ı M'lle. Marthe. E. W. Wood was second, with La ɛe, and also first with a beautiful group of fine plants, viz:

oule de Neige,	Cossack,
ouquet Fait,	Dr. Sharpe,
hristine,	Fair Maid of Guernsey,
ɨitronella,	Golden Circle,

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Golden Dragon,
Golden Queen,
Guernsey Nugget,
Madame Domage,
Mazeppa,
M'lle. de Moulise,
Mongolfier,
Montariol,
Mrs. George Rundle,
Prince of Wales,
Prince Victor,
Semiramis,
Solfaterre,
Temple of Solomon,
White Eve.

Dr. Walcott was first with twelve cut blooms, Large Flowered, and E. W. Wood first for six cut blooms, Large Flowered; also for twelve sprays, Pompones:

Amphilia,
Durnflet,
Gen. Canrobert,
Julie Lagravère,
La Fiancée,
Madame Domage,
Mazeppa,
Model of Perfection,
Mongolfier,
Peri,
Semiramis,
Solfaterre.

E. W. Wood was also first for six Japanese, with

Bouquet Fait,
Cossack,
Daimio,
Fair Maid of Guernsey,
Golden Dragon,
Magnum Bonum.

Dr. Walcott exhibited in his collection two seedlings, which he has named President Wilder and President Parkman. In our report of last year we referred to the success attained by Dr. Walcott in the growth of seedling chrysanthemums, and the strong probability of still more noticeable results in another year, which anticipation has been entirely fulfilled. Dr. Walcott has furnished a brief description of his experiments:

"Four years ago, I prepared a small house, heated by a flue, for the purpose of ripening seed; by keeping the air quite dry, and, in the case of the flowers with long, ligulate corollas, by cutting off the corolla down to the level of the stigma, I secured a small number of seeds. The next year I hybridized, and the next also, and think that upon the whole I have gained by it. President Parkman resembles Purple King, but is much larger, at least three weeks earlier, and thus far less subject to mildew. President Wilder has a slight resemblance to the old variety Lucien Barthère, but a cursory examination will show the differ-

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the backs of the rosy-red petals of President Wilder are yellow, the centre is more distinct and raised than in Lucien re, and, lastly, while the petals of the latter are quilled o the tips, those of President Wilder are quite flat. The measures three inches across. President Parkman is three and three-quarters across, quite full, and shows no centre; r, a very deep violet or purple."

Dr. Walcott's collection there was also a new Pompone Chrysnum, Fanny, very dark; somewhat similar to Bob, but much

H. Hunnewell presented fine Orchids, and several very pretty ies of Capsicum.

MISCELLANEOUS EXHIBITIONS.

bruary 18, E. M. Wood presented a bunch of the finest s of the Maréchal Niel rose that we have ever seen. April om the same contributor came two plants of *Lilium longi- floribunda*, with seven or eight flowers to each. Also, John L. Gardner, two plants of Miles's Hybrid Spiral Migte, with very large spikes of flowers; this variety is an abunbloomer, and of delicate fragrance; the two plants were kably well grown.

bruary 25, we had from B. G. Smith, Seedling Carnation ie Collins; large full flower, color deep crimson suffused cardinal, with no indications of bursting; a free bloomer and g grower.

ril 15, Sewall Fisher presented a collection of Seedling ations, viz.: Cardinal, originated in 1878; color deep carred shading to maroon at the outer edges of the petals, rich color and finely perfumed; very free flower with some ency to burst in the bud. Fascination, originated in 1877; round flower, color pure white delicately blotched with rosy le; very vigorous, and does not appear to burst. Chief, nated in 1878; very large pure white flower, delicately scented. y White, a good sized flower; color pure white; a profuse mer in full clusters. Prince Waldeck, originated in 1881.

pril 29, Hon. Marshall P. Wilder exhibited specimens of lling Azaleas, one year old, from hybridized seed; some of

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them one foot high, with branches. Colonel Wilder says he expects to have them in bloom in two years from the seed. Also from the same, June 3, Seedling Azalea Mrs. Julia Wilder; flower large, double, imbricated, and of the most perfect form; color a delicate light rose or pink; plant vigorous, foliage strong; a late variety.

May 6, from John C. Hovey, *Narcissus bicolor* and the varieties Emperor and Empress. The two latter are much finer than the type.

President Francis B. Hayes has exhibited some very fine Ericas, viz.: *Erica tricolor exquisita*, *E. ventricosa magnifica*, and *E. tricolor Lindleyana*. Also, Azalea Roi des Roses; color deep rose, edges of petals marked white, base of upper divisions deep purple crimson. July 29, Mr. Hayes displayed the best collection of Stocks that have been seen for several years.

July 8th, H. H. Hunnewell presented specimens of *Lilium Wilsoni*, with large orange red flowers dotted with dark brown spots. The same day came from E. Sheppard, *Lilium Dalmaticum*, and *L. Pomponium*, orange red.

July 8 and 22, Jackson Dawson, of the Arnold Arboretum, exhibited a large collection of rare or desirable shrubs, as follows:

Amorpha canescens,
Calluna vulgaris, N. E. var.,
" " var. *carnea*,
Ceanothus Americanus,
Clematis Pitcheri,
" *vitalba*,
Cornus sericea,
Cytisus nigricans,
Diervilla sessilifolia,
Erica tetralix,
Erica vagans,
Hydrangea radiata,
Hypericum calycinum,
" *elegans*,
" *Kalmianum*,
" *multiflorum*,
" *officinale*,
" *patulum*,
Lespedeza bicolor,
Ligustrum coriaceum,
" *Japonicum*,
Lonicera Morrowii,
" " var.,
Potentilla fruticosa,
Psoralea stipulosa,
Ribes saxatile, var. *inerme*,
Robinia hispida,
Rosa setigera,
Rubus odoratus,
Spiræa ariæfolia,
" *Billardieri*,
" *callosa*,
" " var. *alba*,
" *carpinifolia*,
" *Douglasii*,
" *eximia*,
" *rosea*,

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ea salicifolia, var. *bella*,
" var. *Linnæana*,
salicifolia, var. *Nobleana*,
" var. *rosea*,
" var. *semperflorens*,
Spiræa sorbifolia,
" *vacciniifolia*,
Sambucus ebulis,
Vaccinium corymbosum,
" *Pennsylvanicum*,
" *vacillans*.

15, from J. C. Hovey came *Opuntia Rafinesquiana robusta:* is a new and much improved seedling variety of our native n Cactus. The plant forms a prostrate, spreading mass thick, dark green joints, with a very few spines. The , which are produced in great numbers about the middle of re golden yellow with a red centre, and measure from four inches in diameter; it has proved perfectly hardy in all ns in this locality."

29, John B. Moore & Son made a fine exhibit of Perennial s, of which the following were the best six:

Baronne Hely V. Oisse,
Citoyen de Capreva,
Czarina,
Henry Linde,
Richard Wallace,
Mme. Froment.

ust 5, from R. T. Jackson, came twenty-eight species and es of hardy native Ferns, all cut from plants under cultivanost of which plants were collected in the vicinity of Boston.

ust 12, from J. W. Clark, a Seedling Gladiolus; large, full of flowers; color of the three upper divisions light rose purple, with a light stripe through the centre of each petal; divisions almost white, tipped and flaked with purple and l with lemon color.

ust 12, E. H. Hitchings contributed

ris farinosa,
lepias tuberosa,
opogon pulchellus,
sia Chamæcrista,
ericum corymbosum,
benaria blephariglottis White Fringed Orchis),
Habenaria ciliaris (Yellow Fringed Orchis),
Lilium superbum,
Polygala polygama,
Verbascum Blattaria,
Woodwardia angustifolia.

tember 2, from John C. Hovey, a group of *Amaryllis Hallii*, he considers perfectly hardy, as he has had it planted in pen ground seven or eight years. The flower is very much

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in the way of *A. Belladonna*, or rather *A. Belladonna pallida*, though differing somewhat from both these varieties—much lighter pink than the first, and varying from the latter in having a bluish vein running through the centre of each petal, which is more lanceolate in form than either of these kinds; the color is a soft rose or light pink, with six or seven flowers on each stem. Mr. Hovey stated that this handsome Amaryllis was given him by Mr. I. D. Hall, of New Bedford, who was unacquainted with its name, but said it was given him by the captain of a vessel from East India. Dried flowers, with a description, were sent to Kew several years ago by Mr. Hovey, but without response; he therefore named the plant *Amaryllis Hallii* in honor of Mr. Hall, since deceased.

September 2, we had also from W. H. Spooner, Seedling Gladiolus, No. 101, from Diamond crossed with Marie Stuart and Richard Cœur de Leon, in color somewhat like Diamond, but each petal more distinctly blotched with purple.

At the Annual Exhibition, William C. Strong presented specimen foliage of the beautiful *Acer platanoides purpurea*.

Samuel Smith, of Newport, R. I., exhibited a very fine collection of Single Dahlias; Henry Ross, some remarkably large flowers of Calendula Meteor; Mrs. C. N. S. Horner, a large and choice selection of native flowers; and E. H. Hitchings, a rare collection of ten species of Solidago.

September 30, E. Sheppard exhibited a Single Dahlia, White Queen.

October 7, William A. Bock presented a good collection of seedling Pelargoniums, viz.:

Double varieties:

Gen. Hancock, The Gem (bronze leaves),
Mrs. Mary E. Bock, Tricolor.

Single varieties:

A. Lincoln, Cambridge Beauty,
William A. Bock, H. W. Longfellow.

On the same day came from Macy Randall several very pretty dwarf or bedding Dahlias, viz.:

Gem, spotted, Rising Sun, magenta or garnet,
Princess Mathilde, white, Sambo, nearly black.

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ber 18, George Cartwright presented a bloom of the
Rose, Étoile de Lyon, very large and superb in form,
growth; color, fine lemon yellow.
J. Power has at different times exhibited plants grown
mesnil Fertilizing Moss, in fine condition of growth.
llection, shown June 21, contained a carnation, helio-
ia, verbena, and hibiscus, put into the moss April 4;
ay 8; and a fuchsia, May 20. June 30, he presented
ection of fifteen plants; among them one of Canter-
taken from the open ground, the roots washed out
potted in moss June 19, and apparently doing well.
July 8, he showed a strawberry plant, larkspur, and
mum, lifted from the open ground, the roots washed
put into moss July 6, with no indication of wilting.
, he exhibited the same collection shown June 21, in a
ous condition of growth. At the Annual Exhibition,
arge lot of plants in excellent condition was shown.
cannot recommend this system of culture for general
ink it has merits for window gardening purposes, from
ess, cleanliness, and freedom from worms, and greater
sustain life during lack of moisture from neglect.
nount of money prizes and gratuities awarded is $1,392,
e appropriation of $1,500.
s have been awarded from the Hunnewell fund to the
of $44.00.

All which is respectfully submitted.

WM. H. SPOONER,
JOS. H. WOODFORD,
CHAS. W. ROSS,
JAMES CARTWRIGHT,
PATRICK NORTON,
DAVID ALLAN,
} *Committee.*

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ayes, Display of Flowers,	$2 00
Vood, " " "	2 00
Hill, " " "	1 00

MARCH 11.

ties :—	
body, Collection of Plants,	6 00
dner, Hyacinths,	3 00
., Camellias,	2 00
oore & Son, Roses,	1 00
Hayes, Display of Flowers,	2 00

MARCH 18.

ity :—	
o., Display of Flowers,	1 00

AZALEA AND ROSE SHOW.

MARCH 23.

AZALEAS.—Six named varieties, in pots, Edward Butler, rdener to Mrs. Pauline Durant,	$12 00
amed varieties, Marshall P. Wilder,	8 00
nen plant, Edward Butler, gardener to Mrs. Pauline Durant,	5 00
named varieties, in not exceeding ten-inch pots, Marshall P. Wilder,	8 00
plant, in not exceeding a six-inch pot, John L. Gardner,	4 00
ond, Francis B. Hayes,	3 00
PERPETUAL ROSES.—Six plants, in not exceeding ten-inch pots, Francis B. Hayes,	10 00
plants, in not over eight-inch pots, William J. Vass,	6 00
plant, the second prize to William J. Vass,	3 00
ve cut blooms, not less than six distinct named varieties, Wm. Vass,	6 00
ond, John B. Moore & Son,	4 00
bloom, John B. Moore & Son,	1 00
ROSES.—Display, in dish, basket, or vase, not including Maréchal Niel, William J. Vass,	5 00
HOUSE PLANTS.—Specimen in bloom, other than Azalea or Orchid, John L. Gardner,	5 00
cond, Edwin Fewkes,	4 00
s.—Three plants in bloom, F. L. Ames,	10 00
cond, F. L. Ames,	6 00
le plant in bloom, F. L. Ames,	3 00
cond, Hovey & Co.,	2 00
Y FLOWERING SHRUBS, FORCED.—Three, in pots, of three distinct varieties, John L. Gardner,	4 00

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MARCH 25.

:—	
?es, Display of Flowers, ...	$2 00
ood, " " "	1 00

APRIL 1.

:—	
& Son, Collection of Roses, ...	1 00
?es, " " "	1 00
l, Amaryllis, ...	1 00
ood, Display of Flowers, ...	1 00

APRIL 8.

—	
?es, Collection of Ericas, ...	3 00

APRIL 15.

:—	
ood, Display of Flowers, ...	1 00

APRIL 29.

:—	
od, Display of Flowers, ...	1 00

PELARGONIUM SHOW.

MAY 13.

.—Four named Variegated Zonale varieties, Hovey	
. . . . .	$5 00
, of any named Bronze variety, Hovey & Co., . .	3 00
Double Zonales, Hovey & Co., ...	5 00
how or Fancy varieties, Hovey & Co., . . .	6 00
ngle specimen, S. E. Eames, ...	1 00
.—Six varieties, in pots, John L. Gardner, . .	5 00
, John L. Gardner, ...	1 00
y-five blooms, named varieties, John L. Gardner, .	3 00
ohn L. Gardner, ...	2 00
s, other than a basket of Flowers, Mrs. E. M. Gill, .	3 00
:—	
Pelargoniums, ...	3 00
ck, "	1 00
er, Collection of Plants, ...	3 00
, Display of Roses, ...	3 00
" Petunias, ...	1 00
ck, Pansies, ...	1 00
Smith, "	1 00
riam, "	1 00

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Miss E. M. Harris, Display of Flowers,	$1 00
Mrs. E. M. Gill, " " "	1 00
Mrs. A. D. Wood, " " "	1 00
Mrs. L. P. Weston, " " "	1 00

JUNE 3.

Gratuities:—

John C. Hovey, *Sempervivum tomentosum*,	1 00
Marshall P. Wilder, Tydæa Belzebuth,	1 00
E. H. Hitchings, *Orchis spectabilis*,	1 00
Mrs. E. M. Gill, Display of Flowers,	1 00
Mrs. E. S. Joyce, " " "	1 00

RHODODENDRON SHOW.

JUNE 10.

Hunnewell Premiums.

HARDY AZALEAS.—Six named varieties, one truss each, Hovey & Co.	$4 00
Second, Benjamin G. Smith,	3 00
Cluster of trusses of one variety, Benjamin G. Smith,	2 00
Second, Benjamin G. Smith,	1 00

Society's Premiums.

TREE PÆONIES.—Six named varieties, Marshall P. Wilder,	3 00
Second, Hovey & Co.,	2 00
CUT FLOWERS.—Display, filling 100 bottles, W. K. Wood,	4 00
Second, Mrs. E. M. Gill,	3 00
Third, Mrs. L. P. Weston,	2 00
HARDY FLOWERING SHRUBS.—Twelve named varieties, cut blooms,	
George Craft,	3 00
Second, Hovey & Co.,	2 00
NATIVE PLANTS.—Display of named species and varieties, E. H. Hitchings,	4 00

Gratuities:—

H. H. Hunnewell, Collection of Azaleas and Rhododendrons,	10 00
Hovey & Co., Indian Azalea Plants,	3 00
Woolson & Co., Passaic, N. J., Display of Herbaceous Plants,	5 00
Marshall P. Wilder, Collection of Pæonies,	2 00
" " " *Amaryllis Hassami*,	1 00
Miss A. C. Kenrick, *Magnolia Lenne* and Lily of the Valley,	2 00
Hovey & Co., Display of Flowers,	5 00
George Craft, " " "	1 00
Miss S. W. Story, " " "	1 00

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JUNE 21.

Hunnewell Premiums.

ons.—Twenty-four Tender named varieties, Francis B.

. . . . .	$10 00
rancis B. Hayes, ...	6 00
of any Tender named variety, Francis B. Hayes, .	1 00
rdy named varieties, John L. Gardner, . . .	10 00
rancis B. Hayes, ...	6 00
of any Hardy named variety, Francis B. Hayes, .	1 00

:—

hododendrons and Azaleas, ...	1 00
lematis, ...	1 00
ht, *Cattleya Mossiæ*, ...	2 00
Display of Flowers, ...	2 00
" " "	1 00
" " "	1 00
y, " " "	1 00
" " "	1 00
Native Flowers, ...	1 00

JUNE 24.

—

Pyrethrums, ...	1 00
, *Dendrobium thyrsiflorum*, ...	2 00

AND STRAWBERRY EXHIBITION.

JUNE 30.

Special Prizes.

L ROSES.—Twenty-four of different kinds, named,

ay, Jr., Silver Vase, value, ...	$75 00
lifferent varieties, named, Francis B. Hayes, Sil-	
lue, ...	15 00
erent varieties, named, John S. Richards, Silver	
. . . . .	30 00
different varieties, named, William H. Spooner,	
value, ...	40 00
ny one variety, John L. Gardner, Silver Vase,	
. . . . .	15 00
one variety, William H. Spooner, Silver Vase,	
. . . . .	30 00
ny one variety, William Gray, Jr., Silver Vase,	
. . . . .	40 00
ies, three specimens of each, John B. Moore &	
hallenge Cup, to be held for three consecutive	
. . . . .	200 00

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Society's Prizes.

HARDY PERPETUAL ROSES.—Six new varieties, sent out since 1877, the second prize to John B. Moore & Son,	$4 00
Twenty-four distinct named varieties, three of each, John B. Moore & Son,	20 00
Twelve distinct named varieties, William Gray, Jr.,	10 00
Second, John B. Moore & Son,	8 00
Third, John S. Richards,	6 00
Six distinct named varieties, William Gray, Jr.,	6 00
Second, John L. Gardner,	5 00
Third, Francis B. Hayes,	4 00
Three distinct named varieties, Francis B. Hayes,	4 00
Second, John S. Richards,	3 00
Third, William H. Spooner,	2 00
MOSS ROSES.—Six named varieties, three clusters of each, John B. Moore & Son,	5 00
Second, Edward Haskell,	3 00
Three named varieties, three clusters of each, John B. Moore & Son,	3 00
TEA, OR BOURBON ROSES.—Twelve cut blooms, Edwin Fewkes,	3 00
GENERAL DISPLAY of one hundred bottles of all classes, John S. Richards,	7 00
Second, Francis B. Hayes,	6 00
Third, William H. Spooner,	5 00
Fourth, Benjamin G. Smith,	4 00
Fifth, James Nugent,	3 00
STOVE AND GREENHOUSE FLOWERING PLANTS.—Six distinct varieties, in bloom, John L. Gardner,	8 00
Second, Hovey & Co.,	6 00
SPECIMEN PLANT.—Regard being had to new or rare varieties, John L. Gardner,	4 00
Second, F. L. Ames,	2 00
SPECIMEN FOLIAGE PLANT.—The second prize to Hovey & Co.,	2 00
ORCHIDS.—Collection of not less than three varieties in bloom, F. L. Ames,	6 00
Single plant, F. L. Ames,	3 00
Second, Hovey & Co.,	2 00
HERBACEOUS PÆONIES.—Ten named varieties, Hovey & Co.,	3 00
SWEET WILLIAMS.—Thirty trusses, not less than six distinct varieties, E. Sheppard,	3 00
Second, Hovey & Co.,	2 00
Third, Mrs. E. M. Gill,	1 00
VASE OF FLOWERS.—Best arranged, in one of the Society's glass vases, Mrs. E. M. Gill,	4 00

Gratuities:—

O. B. Hadwen, Collection of Roses,	1 00
Warren Heustis, " " "	1 00

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oodford, Clematis,	$2 00
mley, Carnations,	1 00
s, Hybrid Aquilegias,	1 00
y, Pæonies and Pyrethrums,	1 00
enrick, Basket of Flowers,	1 00
well, Display of Flowers,	2 00
ill, " " "	1 00
ayes, " " "	1 00
tory, " " "	1 00
arris, " " "	1 00
eston, " " "	1 00
" " "	1 00
" " "	1 00
gs, Native Flowers,	1 00

JULY 8.

TUAL ROSES.—Twenty-five blooms, John B. Moore	5 00
hn L. Gardner,	4 00
—Six named varieties, Benjamin G. Smith,	3 00
Sheppard,	2 00
D PICOTEES.—Twelve cut blooms, distinct kinds, isher,	2 00
njamin G. Smith,	1 00
—Display filling one hundred bottles, Mrs. L. P.	4 00
K. Wood,	3 00
E. M. Gill,	2 00

—

& Son, Hybrid Perpetual Roses,	2 00
lphiniums,	1 00
"	1 00
, Hardy Shrubs,	2 00
y, Display of Flowers,	1 00
" " "	1 00
" " "	1 00
ative Plants,	1 00

JULY 15.

M.—Twelve spikes, John L. Gardner,	3 00
L. P. Weston,	3 00
ES.—Best arranged, in one of the Society's glass	
E. M. Gill,	3 00
A. D. Wood,	2 00

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Gratuities:—

Francis Parkmann, *Iris Kæmpferi*, varieties, ... $2 00
Miss E. M. Harris, *Lilium candidum*, ... 1 00
Miss S. W. Story, Display of Flowers. 1 00
Mrs. E. M. Gill, " " " 1 00
Mrs. L. P. Weston, " " " 1 00
J. W. Manning, " " " 1 00
Hovey & Co., " " " 1 00
Mrs. A. J. Dolbear, Native Plants, ... 1 00

JULY 22.

HOLLYHOCKS.—Twelve blooms of twelve different colors, John B. Moore & Son, ... 4 00
Second, John L. Gardner, ... 3 00
Six blooms of six different colors, Miss E. M. Harris, . . 2 00
Second, James Nugent, ... 1 00
Three blooms of three different colors, Mrs. E. M. Gill, . . 1 00
Single spike, Miss E. M. Harris, ... 2 00
Second, Miss E. M. Harris, ... 1 00
CUT FLOWERS.—Display filling one hundred bottles, Mrs. L. P. Weston, ... 4 00
Second, Mrs. E. M. Gill, ... 3 00
Third, W. K. Wood, ... 2 00

Gratuities:—

J. W. Manning, Herbaceous Plants, ... 1 00
Jackson Dawson, Collection of Hardy Shrubs, ... 2 00
Edwin Fewkes, Salpiglossis, in variety, ... 1 00
John L. Gardner, *Erica Parmentieriana rosea*, ... 2 00
Mrs. E. S. Joyce, Display of Flowers, ... 1 00
George Craft, " " " 1 00
Miss S. W. Story, " " " 1 00

JULY 29.

PERENNIAL PHLOXES.—Six distinct named kinds, one spike each, John B. Moore & Son, ... 3 00
Second, John B. Moore & Son, ... 2 00
LILIUM LONGIFLORUM.—Twelve spikes, E. Sheppard, ... 3 00
Second, Mrs. Bruce, ... 2 00
PELARGONIUMS.—Twelve double and single varieties, one truss each, Hovey & Co., ... 2 00
Second, Hovey & Co., ... 1 00
EXOTIC FERNS.—Six plants, of different varieties, in pots, Hovey & Co., ... 5 00

Gratuities:—

E. Sheppard, Hollyhocks and Phloxes, ... 2 00
John B. Moore & Son, " " " 1 00

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ies and Phloxes, ...	$1 00
Display of Flowers, ...	2 00
" " "	2 00
" " "	2 00
" " "	1 00

AUGUST 5.

L ROSES.—Twenty-five blooms, Francis B. Hayes,	4 00
L. Gardner, ...	3 00
eties, one cut plant of each, Francis B. Hayes, .	2 00
cis B. Hayes, ...	1 00
Best display, Mrs. A. J. Dolbear, . . .	3 00
Display filling one hundred bottles, Mrs. L. P.	4 00
. E. M. Gill, ...	3 00
ot less than twenty-five named species of Herba- ennials, Hovey & Co., ...	3 00
RS.—Best arranged, in one of the Society's glass ncis B. Hayes, ...	2 00
—	
r, *Cattleya crispa*, ...	2 00
ey, Double Jacobeas, ...	1 00
, Phloxes, ...	1 00

AUGUST 12.

LOXES.—Ten distinct named varieties, one spike each, Moore & Son, ...	3 00
hn B. Moore & Son, ...	2 00
llection filling thirty bottles, three blooms in each, ewkes, ...	3 00
Irs. E. M. Gill, ...	2 00
mes Nugent, ...	1 00
Fifty bottles, three trusses in each, James Nugent, .	3 00
Henry R. Comley, ...	2 00
s.—Display filling one hundred bottles, W. K. Wood,	4 00
Mrs. L. P. Weston, ...	3 00
rs. E. M. Gill, ...	2 00
WERS.—Collection, Mrs. A. J. Dolbear, . . .	3 00
es:—	
well, Two Plants of Oleander, ...	2 00
right, Gladioli, ...	1 00
Hayes, Display of Flowers, ...	2 00

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AUGUST 19.

GLADIOLI.—Ten named varieties, in spikes, Franklin Bacheller,	$4 00
Six named varieties, in spikes, O. B. Hadwen,	3 00
Single spike, named, D. Knox,	1 00
Display of named and unnamed varieties filling one hundred bottles, James Cartwright,	6 00
PHLOX DRUMMONDI.—Fifty bottles, not less than six varieties, Hovey & Co.,	3 00
Second, James Nugent,	2 00
Gratuities:—	
Edwin Fewkes, *Chrysanthemum carinatum*,	1 00
Francis B. Hayes, Display of Flowers,	2 00
Mrs. L. P. Weston, " " "	2 00
Mrs. E. M. Gill, " " "	2 00
Mrs. E. S. Joyce, " " "	1 00

AUGUST 26.

ASTERS.—Chrysanthemum, thirty blooms, not less than eight varieties, Francis Skinner, Jr.,	4 00
Second, Francis B. Hayes,	3 00
Third, James Nugent,	2 00
Pompon, thirty sprays, not less than six varieties, one spray in each bottle, Mrs. A. D. Wood,	3 00
BASKET OF FLOWERS.—Best arranged, Mrs. E. M. Gill,	3 00
Gratuities:—	
Francis B. Hayes, Hybrid Perpetual Roses,	2 00
Miss S. W. Story, *Lilium lancifolium*,	1 00
Henry R. Comley, Display of Asters,	2 00
James Nugent, " " Verbenas,	1 00
Mrs. L. P. Weston, " " Flowers,	2 00
Mrs. E. M. Gill, " " "	1 00

SEPTEMBER 2.

LILIUM LANCIFOLIUM.—Twelve spikes, Miss S. W. Story,	3 00
TROPÆOLUMS.—Display filling twenty-five bottles, Wm. H. Spooner,	3 00
Third prize to James Nugent,	1 00
MARIGOLDS.—Twenty-five bottles, three flowers in each, Francis B. Hayes,	3 00
Second, George Craft,	2 00
CUT FLOWERS.—Display filling one hundred bottles, Mrs. E. M. Gill,	4 00
Second, Mrs. L. P. Weston,	3 00
Gratuities:—	
John B. Moore & Son, Phloxes,	2 00
B. G. Smith, *Lilium lancifolium*,	1 00
Jos. H. Woodford, " *auratum*,	1 00

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s and Verbenas,	$1 00
li,	2 00
,	1 00
Display of Flowers,	2 00

SEPTEMBER 9.

Twenty-five flowers, not less than six varieties,

	3 00
Craft,	2 00
Patterson,	1 00

i,	2 00
	2 00
bium formosum,	2 00
ıs-rooted Begonias,	1 00
Display of Flowers,	2 00
" " "	1 00
" " "	1 00
" " "	1 00
Native Plants,	2 00

ANNUAL EXHIBITION.

SEPTEMBER 19, 20, 21, AND 22.

—Twelve Greenhouse and Stove Plants, of dif-
, one Dracæna and one Croton admissible,

ell,	$20 00
yson,	25 00
o.,	20 00
PLANT.—Francis B. Hayes,	5 00
B. Hayes,	4 00

PLANTS.—Six varieties, not offered in a col-
ıhouse plants, Dracænas not admissible, H. H.

	12 00
Co.,	10 00
offered in any collection, John L. Gardner,	5 00
Co.,	4 00
ties, Hovey & Co.,	5 00
ard,	4 00

arieties, no Adiantums admissible, Hovey &

	6 00
ties, Hovey & Co.,	6 00
pecimen, Hovey & Co.,	6 00
d varieties, H. H. Hunnewell,	8 00
son,	6 00

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PALM.—Single specimen, S. R. Payson,	$5 00
Second, Hovey & Co.,	4 00
AGAVES.—Six distinct kinds, Hovey & Co.,	6 00
SUCCULENTS.—Collection of twelve species, other than Agaves, Yuccas, or Cacti, Hovey & Co.,	5 00
BEGONIAS.—Tuberous-rooted, six named varieties, E. Sheppard,	5 00
Second, Hovey & Co.,	4 00
GLADIOLI.—Best display and best kept during the exhibition, of named or unnamed varieties, filling one hundred bottles, George Craft,	10 00
DAHLIAS.—Twelve named varieties, John L. Gardner,	5 00
Second, Francis B. Hayes,	4 00
Six named varieties, James Nugent,	3 00
Second, Edwin Fewkes,	2 00
Single named flower, Fancy or Self, E. Sheppard,	2 00
CUT FLOWERS.—Best display, and best kept during the exhibition, filling one hundred and fifty bottles, Hovey & Co.,	16 00
Second, Mrs. E. M. Gill,	14 00
Third, James Nugent,	12 00
BASKET OF FLOWERS.—Best arranged, and best kept during the exhibition, Mrs. E. S. Joyce,	5 00

Gratuities :—

Hovey & Co., Collection of Plants,	20 00
H. H. Hunnewell, " " "	15 00
S. R. Payson " " "	10 00
John L. Gardner, " " "	5 00
John L. Gardner, Plants,	2 00
Francis B. Hayes, Collection of Coleus,	3 00
William Patterson, Collection of Caladiums,	3 00
Henry Ross, Phloxes,	1 00
R. T. Jackson, Marigolds,	1 00
C. H. Hovey, "	1 00
Henry Ross, Calendula Meteor,	1 00
Hovey & Co., Ampelopsis,	1 00
A. W. Nelson, Jasmine,	1 00
George Craft, *Desmodium pendulæflorum*,	1 00
Daniel Duffley, Large Plant of Ivy,	5 00
Samuel Smith, Collection of Single Dahlias,	5 00
E. S. Smith, Seedling Pelargoniums,	1 00
William H. Spooner, Tropæolums and Marigolds,	3 00
John C. Hovey, Gaillardias,	1 00
John B. Moore & Son, Gladioli and Phloxes,	2 00
J. L. Willey, Collection of Dahlias,	3 00
Joseph Tailby, *Asparagus plumosus nanus*,	1 00
William C. Strong, Foliage of Trees and Shrubs,	2 00
J. W. Manning, Evergreens,	4 00

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glossum Skinneri,	$1 00
Display of Flowers,	3 00
" " "	3 00
n, " " "	3 00
" " "	2 00
" " "	2 00
" " "	2 00
Design of Dried Flowers and Grasses,	3 00
, Fern Decoration,	2 00
ollection of Solidagos,	2 00
ner, Native Flowers,	5 00
sket of Grass of Parnassus,	1 00
arth, *Viola lanceolata*,	1 00

SEPTEMBER 30.

lection of Dahlias,	2 00

OCTOBER 7.

Collection of Dahlias,	3 00
r, " " "	1 00
r, *Chrysanthemum inodorum*,	1 00
Forbes, Vase of Leaves and Asters,	1 00
es, Display of Flowers,	2 00
" " "	1 00
l, " " "	1 00

OCTOBER 14.

Collection of Dahlias,	1 00
ner, " " "	1 00
Display of Flowers,	2 00

CHRYSANTHEMUM SHOW.

NOVEMBER 9 AND 10.

EMUMS.—Six Large Flowered, or Chinese, named, one in each pot, H. P. Walcott,	$8 00
, John L. Gardner,	6 00
ese, distinct named varieties, H. P. Walcott,	8 00
l, John L. Gardner,	6 00
mpons, distinct named varieties, H. P. Walcott,	4 00
d, E. W. Wood,	3 00
Flowered or Chinese, in six inch pots, distinct named kinds, rick Malley,	5 00

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Specimen Plant, Large Flowered or Chinese, named, H. P. Walcott,	$4 00
Second, H. P. Walcott,	3 00
Specimen Japanese, named, E. W. Wood,	4 00
Second, John L. Gardner,	3 00
Specimen Pompon, named, H. P. Walcott,	3 00
Second, E. W. Wood,	2 00
Best display of named plants, in pots, all classes, not less than ten varieties, E. W. Wood,	8 00
Second, H. P. Walcott,	6 00
Third, Marshall P. Wilder,	4 00
Twelve cut blooms, Large Flowered or Chinese, named, H. P. Walcott,	4 00
Second, Edwin Fewkes,	3 00
Third, E. W. Wood,	2 00
Six cut blooms, Large Flowered or Chinese, named, E. W. Wood,	3 00
Second, H. P. Walcott,	2 00
Third, B. G. Smith,	1 00
Twelve sprays of Pompons, named, E. W. Wood,	2 00
Second, H. P. Walcott,	1 00
Six sprays of Japanese, named, E. W. Wood,	2 00
Second, H. P. Walcott,	2 00
Display of named varieties, of any or all classes, thirty bottles, one variety in each, E. Sheppard,	5 00
Second, Norton Brothers,	4 00
Third, F. L. Ames,	3 00
Fourth, H. P. Walcott,	2 00
Fifth, E. W. Wood,	1 00
Orchids.—Three varieties in bloom, H. H. Hunnewell,	8 00
Single Plant, H. H. Hunnewell,	4 00
Second, James Cartwright,	3 00

Gratuities:—

Norton Brothers, Collection of Chrysanthemums,	4 00
Worcester Lunatic Hospital, Chrysanthemum Flowers,	1 00
Edwin Fewkes, " "	1 00
E. Sheppard, " "	1 00
Mrs. L. P. Weston, " "	1 00
Mrs. E. M. Gill, " "	1 00
H. H. Hunnewell, Collection of Plants,	5 00
Francis B. Hayes, " " "	5 00
F. L. Ames, Orchids,	3 00
Charles J. Power, Plants grown in Fertilized Moss,	1 00
Miss E. H. Craft, Design of Dried Flowers,	3 00
Miss S. W. Story, Display of Flowers,	1 00

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DECEMBER 2.

on of Pelargoniums, ... $2 00
isplay of Flowers, ... 1 00

SILVER MEDALS.

w, March 23. Francis B. Hayes, New Azaleas.
" " Marshall P. Wilder, Collection of Azaleas.
" " F. L. Ames, Collection of Orchids.
P. Wilder, Seedling Azalea Mrs. Julia Wilder.
nnewell, Collection of Indian Azaleas.
w, June 21. Francis B. Hayes, Rhododendrons and Azaleas.
" " H. H. Hunnewell, Rhododendrons.
30. Jackson Dawson, Roses of different countries.
Hovey, *Opuntia Rafinesquiana.*
N. S. Horner, Native Plants.
Hitchings, " "
ancis B. Hayes, Roses and Asters.
hn C. Hovey, *Amaryllis Hallii.*
on, September 19–22. S. R. Payson, *Asparagus plumosus nanus.*
" " H. H. Hunnewell, *Asparagus tenuissimus.*
Show, November 9 and 10. H. P. Walcott, Seedling Chrysas President Wilder and President Parkman.

BRONZE MEDALS.

John L. Gardner, Two Plants Miles's Hybrid Mignonette.
E. M. Wood, Maréchal Niel Roses.
Beard, Fancy Pansies.
Hunnewell, *Lilium Wilsoni.*
is B. Hayes, Collection of Stocks.
T. Jackson, Hardy Native Ferns.
tion, September 19–22. Charles J. Power, Plants grown in il Fertilizing Moss.

FIRST-CLASS CERTIFICATES OF MERIT.

John C. Hovey, *Lachenalia Wickii superba.*
Benjamin G. Smith, Carnation Wilkie Collins.
Francis B. Hayes, Roses Duke of Edinburgh and Mme. Lom-

ose Show, March 23. Henry R. Comley, Seedling Carnations, Nos. 1 and 2.
" " " " Hovey & Co., Primula Cloth of Gold.
" " " " A. McLaren, *Orontium Japonicum variegatum.*
" " " " John L. Gardner, *Cytisus elegans.*

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March 25. Ellwanger & Barry, Collection of Coniferous Trees.
April 1. Jackson Dawson, Rose Pierre Notting.
" 8. Francis B. Hayes, Azalea Roi des Roses.
April 15. E. M. Wood, *Lilium longiflorum floribunda.*
" " Sewall Fisher, Seedling Carnations.
" " Francis B. Hayes, *Bowea volubilis.*
" 22. E. Sheppard, Pelargoniums.
May 6. John C. Hovey, *Narcissus bicolor* Emperor and Empress,
June 21. George Craft, *Papaver orientale.*
" " Francis Parkman, Seedling Ghent Azaleas.
" " " " " Clematis.
" " George Craft, " Papavers.
Rose Show, June 30. John C. Hovey, *Brodiæa congesta.*
" " " " " " " *Gladiolus Byzantinus.*
July 8. E. L. Beard, Tuberous-rooted Begonias.
" " E. Sheppard, *Lilium Dalmaticum* and *L. Pomponium.*
" 29. Hovey & Co., Pelargonium Freak of Nature.
" " A. H. Fewkes, *Nicotiana affinis.*
" " John C. Hovey, *Ipomæa leptophylla.*
August 5. E. L. Beard, Seedling Gloxinias.
" 12. J. W. Clark, " Gladiolus, No. 20.
" " John C. Hovey, Gladioli Marie Lemoine and Lemoinii.
" " John B. Moore & Son, Seedling Phloxes, Nos. 11–26.
" 26. Francis B. Hayes, Aster Prince of Wales.
" " Edwin Fewkes, *Canna Ehemanni.*
September 2. C. H. Hovey, *Gaillardia picta Lorenziana.*
Annual Exhibition, September 19–22. Hovey & Co., Tuberous-rooted Begonias.
" " " " W. C. Strong, *Acer platanoides purpurea.*
October 7. William A. Bock, Seedling Pelargoniums.

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REPORT

OF THE

ITTEE ON FRUITS,

FOR THE YEAR 1882.

By E. W. WOOD, CHAIRMAN.

:rop the past season, though not as abundant as in th the exception of Peaches, been fair in amount and good quality. The unusually severe cold on the fourth October, 1881, did much injury to the fruit trees, as e less hardy trees and shrubs; and the extreme cold winter entirely destroyed the fruit buds on the peach hout the State, not a single specimen grown in open ing been exhibited during the year, a circumstance l for many years. The trees have borne no fruit, but ıade a strong and more than usually healthy growth and e of an abundant crop next season.

ıg was later than usual, and it was found necessary to he Rose and Strawberry Exhibition from June 27th to

ERRIES. — The quantity shown was about the same as in ; the quality was much better than last year. Our y Exhibition ought to be one of the most interesting of but those who grow this fruit largely for market, find it nterest to grow but few varieties, and can compete in but :s; and though the amateurs and those who grow for e cultivate more varieties, and are more inclined to test wonders introduced every season, they do not as gen- hibit as might reasonably be expected.

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Of new varieties, nothing of marked prominence has been shown; the prize for two new varieties not previously exhibited was awarded to the Warren and Triple Crown. In awarding this prize, the Committee can only judge of size, beauty, and quality, having no means of knowing as to the desirability for general cultivation. Of the more prominent varieties recently introduced, the year's experience is not as favorable as we could wish. The Bidwell, while generally promising well in the first part of the season, failed to mature its crop; a better acquaintance with its merits may show that this is not usual. The Manchester may, from its vigor of growth and productiveness, be desirable for market purposes, but its quality will hardly make it desirable for the private garden. The Sharpless is evidently gaining in favor and being widely grown, both for sale and private use; its very large size and bright, clear color command the highest price, and among the varieties of large berries, it takes a high rank in quality. The Special Prize of a Silver Cup, for the best four quarts of any variety, was again awarded to the Sharpless, shown by Mr. George Hill, from Arlington.

Cherries were shown in larger quantity than last year. C. E. Grant, as usual, took a large share of the prizes with well grown, handsome fruit. No new varieties of special merit were shown during the season.

Currants were abundant and of good quality. Among the red varieties, La Versaillaise took all the first prizes. Of the white varieties, the Transparent, of French origin, shown by B. G. Smith, took the first prize. It was fully equal in quality and superior in appearance to the well-known Dana's Transparent, and would seem to be a valuable acquisition to this class of fruit.

Raspberries. — This fruit suffered more than usual from the severity of the winter, and the quantity shown was much below the average. No new varieties were shown. The first prize was awarded the Saunders, for superior quality. This variety deserves more general cultivation, especially among amateurs.

Blackberries. — We have been forcibly reminded of the necessity of a more hardy variety of this fruit, as in many places the vines were entirely destroyed during the winter. We had but one exhibit of blackberries the past season; A. S. McIntosh showed an excellent dish of the Dorchester variety.

Gooseberries. — This fruit was shown in more than the usual

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first prize for natives was awarded to Smith's exhibit of foreign varieties was the best for many

ıe exhibits of this fruit continue to increase, the ›een all taken the past season. Several collections ten varieties were also placed in the general exhibi- rease in the show of plums has been greater within ears than that of any other fruit.

The season has been favorable for the native varie- the sixteen prizes offered at the Annual Exhibition, as awarded; and of the eighteen prizes offered at exhibition, twelve were awarded, the only varieties in was no competition being Massasoit and Wilder os. 3 and 4). Some specimens of Moore's Early, id Delaware, were very fine and deserve special

ire State was shown at the Annual Exhibition, by Ricketts, of Newburg, N. Y., the originator, who t is a cross between the Hartford Prolific and Clinton. ing description was made by the Secretary of this

›f medium size, long and narrow, with a shoulder on one six inches in length by three and a half inches across r, compact but not crowded. Berries round, green, ≥ bloom; sweet, very juicy, with not much pulp,— but is is sour when bitten into. It was probably not quite lly ripe, perhaps the pulp would disappear. It has a ontignan flavor, and is entirely free from any foxy The skin is pretty thick."

GRAPES were shown in larger quantity than usual. e no bunches of extra large size; but, as a whole, the well colored and of fine quality.

vere not as abundant as last year, many trees showing buds. The Seckel was the only variety that produced a

The drought in August and September affected unfa- he size, especially of the later varieties, but the fruit ell, and was above the average in quality. The exhibits he season have been creditable. Of the sixty-four prizes the Annual Exhibition every one was awarded.

s.—As a whole, the crop was not as large as two years

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ago, but in some localities there was a full average yield. Of the sixty-one prizes offered at the Annual Exhibition forty-eight were awarded. There has been more than usual complaint of imperfect or worm-eaten fruit this season. Within the past few years, various means have been tried, with greater or less success, to stop the ravages of the canker-worm; but the injury from this pest is small, compared with that from the apple-worm or codling moth. The former is confined to a limited area; the latter takes undisputed possession of every orchard in the State. This seems to suggest an important subject for investigation by this Society, to ascertain some means by which this enemy may be stamped out from our orchards, otherwise most favorably located to produce the best fruit of its kind known.

No new entries for the Prospective Prizes have been made during the year; and, of those previously entered, the Hayes and Amber Queen grapes are the only ones to which the attention of the Committee has been called.

Of fruit exhibits during the year, aside from new varieties, the following seem to deserve special mention. March 23, Rodney Wallace showed Black Hamburg vines, in pots, one year old from the bud, with three and four fair-sized bunches of well-ripened fruit. July 15, E. P. Richardson showed his Seedling Strawberry, Garden City; the fruit was of good size and quality, and it would seem to be a desirable late variety. August 5, President Hayes showed, among Foreign Grapes, the Madresfield Court Muscat, which in quality has rarely, if ever, been excelled by any grapes shown at our exhibitions. If this variety proves vigorous and productive, it will deserve a place in every vinery. October 14, Edmund H. Hart, of Federal Point, Florida, sent specimens of the Japanese Persimmons recently introduced to this country, which proved very sweet, with a peculiar and pleasant flavor, unlike that of any other fruit, and with but little of the astringency which the persimmon is apt to possess. Mr. Hart states that the fruit of old trees is less astringent than that of younger ones. The fruit is yet very rare, even in Florida. The variety sent was the Mikado. The Committee awarded to Mr. Hart a First Class Certificate of Merit. October 28, Hon. Marshall P. Wilder showed two varieties of Japanese Persimmons, received from P. J. Berckmans, Augusta, Georgia.

The Committee have awarded during the year, in prizes and

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8, leaving an unexpended balance of $92. Had usual quantity of peaches shown, this balance would ely reduced.

up the general result for the year, fruit growers may is encouraging.

e purposes the fruits have been above the average in market, the prices have been considerably above the ıe past ten years. The same quantity of apples ır in New England thrown upon the market ten years ve produced a surplus and consequent low prices, l margin of profit over the expense of picking and ıt, owing to the demand for export, the trade has ow active, and prices for a fair quality of apples have two to three dollars per barrel. The experience of ıg the dealers has proved that New England apples desirable than Western for shipping. Buyers from been and are now in this market buying apples to ship ts.

sident of this Society was among the first to foresee predict the importance and value of the export trade this Society can hardly find a more interesting or ject for its consideration than the best kinds and uit for this trade, the best methods for their cultiva- estruction of their insect enemies; thus giving aid ement to fruit growers throughout the State.

Respectfully submitted,

E. W. Wood,
P. B. Hovey,
C. F. Curtis,
Benjamin G. Smith,
Jacob W. Manning,
Warren Fenno,

Fruit Committee.

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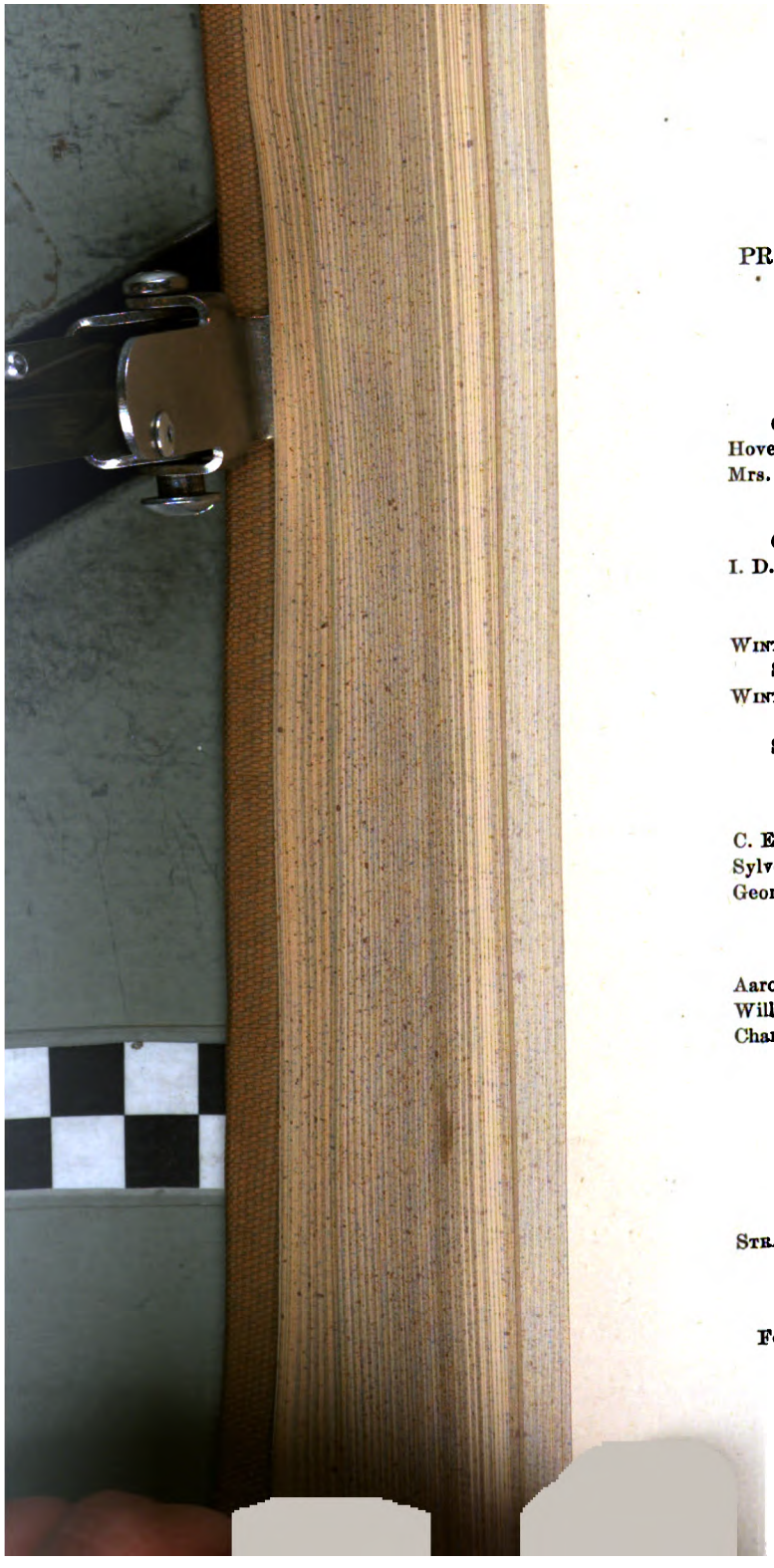

PRIZES AND GRATUITIES AWARDED FOR FRUITS.

JANUARY 7.

Gratuities :—

Hovey & Co., King of Tompkins County Apples,	$1 00
Mrs. H. V. Draper, Columbia Pears,	1 00

MARCH 18.

Gratuity :—

I. D. White, Collection of Pears,	1 00

MARCH 23.

WINTER APPLES.—Any variety, Warren Fenno, Roxbury Russet,	3 00
Second, A. S. McIntosh, Rhode Island Greening,	2 00
WINTER PEARS.—Any variety, Warren Fenno, Duchess of Bordeaux,	3 00
Second, Warren Fenno, Doyenne Phillippe,	2 00

MAY 13.

Gratuities:—

C. E. Grant, Pears,	1 00
Sylvester P. Morse, Roxbury Russet Apples,	1 00
George Dorr, " " "	1 00

JUNE 24.

Gratuities :—

Aaron D. Capen, Charles Downing Strawberries,	1 00
William Doran & Son, " " "	1 00
Charles Garfield, Hervey Davis, "	1 00

ROSE AND STRAWBERRY SHOW.

JUNE 30.

Special Prize.

STRAWBERRIES.—Four quarts of any variety, George Hill, Sharpless, Silver cup, value,	$25 00

Regular Prizes.

Four quarts Charles Downing, E. W. Wood,	3 00
Second, Aaron D. Capen,	2 00

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E. W. Wood,	$3 00
W. Wood,	3 00
rge V. Fletcher,	2 00
harles Downing, E. W. Wood,	2 00
ron D. Capen,	1 00
ling, E. W. Wood,	2 00
N. Weston,	2 00
seph D. Fitts,	1 00
s, John B. Moore & Son,	2 00
eph D. Fitts,	2 00
E. Grant,	1 00
t Prolific, John B. Moore & Son,	2 00
. W. Weston,	1 00
the West, Joseph D. Fitts,	2 00
ron D. Capen,	2 00
ilder, Marshall P. Wilder,	2 00
Horace Eaton,	1 00
n, E. W. Wood,	2 00
George V. Fletcher,	2 00
C. N. Brackett,	1 00
variety, Joseph D. Fitts, Great American,	2 00
Horace Eaton, Bidwell,	1 00
not less than six varieties, Joseph D. Fitts,	4 00
arieties, not previously exhibited, Joseph D. Fitts, War-	
id Triple Crown,	3 00
es, any variety, George Hill, Sharpless,	2 00
-Two quarts, any variety, C. E. Grant, Black Heart,	2 00
C. E. Grant, Elton,	1 00
RAPES.—Two bunches, any variety, Francis B. Hayes,	
Hamburg,	3 00
, Francis B. Hayes, Victoria Hamburg,	2 00
ty:—	
H. Hale, South Glastonbury, Conn., Manchester Straw-	
ies,	1 00

JULY 8.

RIES.—Two quarts of any late variety, C. E. Grant, Sharp-	
	2 00
d, C. E. Grant, Jucunda,	1 00
.—Black Eagle, C. E. Grant,	2 00
id, Aaron D. Capen,	1 00
Tartarian, C. E. Grant,	2 00
her variety, C. E. Grant, Elton,	2 00
nd, James Nugent, Walsh's Seedling,	1 00
tuities:—	
elson, Marion Strawberries,	1 00
Wheeler, Seedling Strawberry Local,	1 00

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July 15.

Cherries.—Two quarts, any variety, C. E. Grant, Downer's Late,	$2 00
Second, C. F. Curtis, Black Tartarian,	1 00
Raspberries.—Two quarts, any variety, William Doran & Son, Highland Hardy,	2 00
Currants.—Four quarts of any Red variety, Benjamin G. Smith, La Versaillaise,	3 00
Second, C. E. Grant, Red Dutch,	2 00
Two quarts of any White variety, Benjamin G. Smith, Transparent,	3 00
Second, C. E. Grant, White Dutch,	2 00

July 22.

Raspberries.—Two quarts, any variety, Warren Fenno, Saunders,	2 00
Second, William Doran & Son, Franconia,	1 00
Currants.—Two quarts Dana's Transparent, Benjamin G. Smith,	2 00
Second, C. E. Grant,	1 00
La Versaillaise, Benjamin G. Smith,	2 00
Second, Wm. Doran & Son,	1 00
Victoria, Benjamin G. Smith,	2 00
Second, John L. Gardner,	1 00
Black Naples, Benjamin G. Smith,	2 00
Second, John L. Gardner,	1 00
Gratuities:—	
William Doran & Son, four varieties of Raspberries,	3 00
J. W. Manning, Souhegan Black Cap Raspberries, First-Class Certificate of Merit.	
Warren Fenno, Cherries,	1 00
C. N. Brackett, Seedling Cherry,	1 00
C. E. Grant, Collection of Currants and Raspberries,	1 00
B. G. Smith, June Berries,	1 00

July 29.

Currants.—Two quarts of any Red variety, Benjamin G. Smith, La Versaillaise,	2 00
Second, C. E. Grant, La Versaillaise,	1 00
Two quarts of any White variety, Benjamin G. Smith, Transparent,	2 00
Second, Benjamin G. Smith, Dana's Transparent,	1 00
Gooseberries.—Two quarts of any Native variety, Benjamin G. Smith, Downing's Seedling,	2 00
Second, M. W. Chadbourne, Downing's Seedling,	1 00
Gratuities:—	
Francis B. Hayes, Foreign Grapes,	3 00
Warren Fenno, Gooseberries and Currants,	1 00

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AUGUST 5.

—Two quarts, any variety, A. S. McIntosh, Dorches-	
. . . . .	$2 00
—Two quarts of any Foreign variety, Benjamin G.	
Whitesmith, ...	2 00
enjamin G. Smith, Bang-Up, ...	1 00
ane d' Été, Horace Eaton, ...	2 00
Warren Fenno, ...	1 00
ariety, Warren Fenno, Madeleine, ...	2 00
s :—	
yes, Foreign Grapes, ...	2 00
ers, " "	3 00
Smith, Gooseberries, ...	1 00

AUGUST 12.

rge Yellow Bough, C. Terry, ...	2 00
Warren Heustis, ...	1 00
han, N. B. White, ...	2 00
Benjamin G. Smith, ...	1 00
variety, C. N. Brackett, Early Red Margaret, . .	2 00
Warren Fenno, Tetofsky, ...	1 00
urre Giffard, John McClure, ...	2 00
, Benjamin G. Smith, ...	1 00
ties :—	
lapen, Apples and Raspberries, ...	1 00
tosh, Blackberries, ...	1 00
dbourne, Currants, ...	1 00
. Smith, Gooseberries, ...	1 00

AUGUST 19.

Williams, C. E. Grant, ...	2 00
d, B. G. Smith, ...	1 00
Clapp's Favorite, Warren Fenno, ...	2 00
d, Mrs. E. M. Gill, ...	1 00
g's Elizabeth, Warren Fenno, ...	2 00
d, Alexander Dickinson, ...	1 00
er variety, George Frost, Suprême de Quimper, . .	2 00
nd, Warren Fenno, Bloodgood, ...	1 00
uities :—	
S. Hayes, Foreign Grapes, ...	2 00
hite, Apples, ...	1 00
V. Draper, Peach Plums, ...	1 00
Doran & Son, Currants and Raspberries, ...	1 00
Weld, Orlando, Orange County, Florida Citrons, The So-	
ety's Silver Medal.	

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August 26.

Pears.—Bartlett, John McClure,	$2 00
Second, C. E. Grant,	1 00
Rostiezer, John McClure,	2 00
Second, M. W. Chadbourne,	1 00
Tyson, John C. Park,	2 00
Second, B. F. Hunt,	1 00
Any other variety, Horace Partridge, Belle Lucrative,	2 00
Second, Hovey & Co., Manning's Elizabeth,	1 00
Plums.—Any variety, B. G. Smith, Peach Plum,	2 00
Second, B. G. Smith, Bradshaw,	1 00
Gratuities:—	
M. W. Chadbourne, Apples,	1 00
Aaron D. Capen, "	1 00
Warren Fenno, Apples and Pears,	2 00
C. E. Grant, " " "	1 00
N. B. White, " " "	1 00
C. N. Brackett, " " "	1 00
Samuel Hartwell, " " "	1 00
John L. Bird, Tyson Pears,	1 00
Hovey & Co., Pears,	1 00
Horace Partridge, Foreign Grapes,	1 00

September 2.

Apples.—Any variety, B. G. Smith, Garden Royal,	2 00
Second, C. N. Brackett, Red and Green Sweet,	1 00
Pears.—Bartlett, C. N. Brackett,	2 00
Second, John McClure,	1 00
Any other variety, Warren Fenno, Clapp's Favorite,	2 00
Second, Hovey & Co., Doyenne Boussock,	1 00
Plums.—Collection, not less than four varieties, Horace Eaton,	3 00
Second, Amos Bates,	2 00
Any one variety, Horace Eaton, Washington,	2 00
Second, B. G. Smith, Bradshaw,	1 00
Native Grapes.—Six bunches of any early variety, C. N. Brackett, Champion,	2 00
Second, B. G. Smith, Champion,	1 00
Gratuities:—	
Horace Partridge, Foreign Grapes,	1 00
B. G. Smith, " "	1 00
Mrs. H. V. Draper, Collection of Plums,	2 00
W. H. Slocum, Plums,	1 00
John B. Moore & Son, Apples,	1 00
N. B. White, Pears and Apples,	2 00
Samuel Hartwell, Pears and Apples,	1 00
Warren Heustis, Apples,	1 00

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SEPTEMBER 9.

in, Samuel Hartwell,	$2 00
Fenno,	1 00
kett,	2 00
mith,	1 00
Warren Fenno, Summer Pippin,	2 00
rackett, Red and Green Sweet,	1 00
G. Damon,	2 00
nson,	1 00
C. N. Brackett,	2 00
Co.,	1 00
f. W. Chadbourne, Clapp's Favorite,	2 00
nt, Flemish Beauty,	1 00
. G. Damon,	2 00
G. Damon,	2 00
B. Moore & Son,	2 00
h,	1 00
W. Talbot, Cottage,	2 00
on, Adirondack,	1 00
	1 00
	1 00
pples,	1 00
	1 00
n Grapes,	1 00

NUAL EXHIBITION.

EMBER 19, 20, 21, AND 22.

Special Prizes.

, John B. Moore & Son,	$5 00
. Mary Langmaid,	5 00
y, Robert C. Winthrop,	5 00
pes, any variety, John B. Moore & Son,	5 00

Regular Prizes.

C. Eustis,	3 00
	2 00
	1 00
N. Brackett,	2 00
	1 00
sh,	2 00
	1 00

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Fall Orange or Holden Pippin, S. Hartwell,	$2 00
Second, C. N. Brackett,	1 00
Fameuse, George V. Fletcher,	2 00
Second, B. G. Smith,	1 00
Foundling, Samuel Hartwell,	2 00
Garden Royal, J. W. Talbot,	2 00
Second, George S. Coe,	1 00
Golden Russet, B. G. Smith,	2 00
Second, Warren Fenno,	1 00
Gravenstein, Samuel Hartwell,	3 00
Second, George S. Coe,	2 00
Third, C. C. Shaw,	1 00
Hubbardston Nonsuch, M. W. Chadbourne,	3 00
Second, C. N. Brackett,	2 00
Third, George S. Coe,	1 00
Hunt Russet, Samuel Hartwell,	2 00
Second, C. N. Brackett,	1 00
King of Tompkins County, C. N. Brackett,	2 00
Second, W. C. Eustis,	1 00
Lady's Sweet, C. N. Brackett,	2 00
Leicester Sweet, O. B. Hadwen,	2 00
Lyscom, Aaron D. Capen,	2 00
Second, George S. Coe,	1 00
Mother, E. W. Wood,	2 00
Northern Spy, W. C. Eustis,	2 00
Second, George S. Coe,	1 00
Porter, T. C. Thurlow,	2 00
Second, George S. Coe,	1 00
Pumpkin Sweet, C. N. Brackett,	2 00
Second, S. G. Damon,	1 00
Rhode Island Greening, C. N. Brackett,	3 00
Second, J. L. D'Wolf,	2 00
Third, W. A. Crafts,	1 00
Roxbury Russet, J. L. D'Wolf,	3 00
Second, B. G. Smith,	2 00
Third, M. W. Chadbourne,	1 00
Talman's Sweet, Josiah Crosby,	3 00
Second, J. T. Foster,	2 00
Washington Royal, the second prize to O. B. Hadwen,	1 00
Washington Strawberry, Warren Fenno,	2 00
CRAB APPLES.—Hyslop, F. J. Dutcher,	2 00
Second, M. W. Chadbourne,	1 00
Montreal Beauty, John B. Moore & Son,	2 00
Transcendent, B. F. Hunt, Jr.,	2 00
Second, B. G. Smith,	1 00
Any other variety, B. G. Smith, Dartmouth,	2 00
Second, Horace Partridge, Yellow,	1 00

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t, George S. Harwood,	$3 00
ovey & Co.,	2 00
a L. Bird,	1 00
ve, Horace Eaton,	2 00
hn C. Park,	1 00
jou, Mrs. Mary Langmaid,	3 00
ohn C. Park,	2 00
race Eaton,	1 00
c, Mrs. Mary Langmaid,	3 00
John L. Bird,	2 00
. P. Walker,	1 00
irgeau, Mrs. Mary Langmaid,	3 00
William T. Hall,	2 00
Warren Heustis,	1 00
el, T. M. Davis,	2 00
Mrs. Jesse Haley,	1 00
ardy, Charles F. Curtis,	2 00
, Thomas P. Somes,	1 00
uperfin, John C. Park,	2 00
l, Marshall P. Wilder,	1 00
lovey, George Frost,	3 00
d, M. W. Chadbourne,	2 00
B. G. Smith,	1 00
e Boussock, George S. Harwood,	2 00
d, Marshall P. Wilder,	1 00
e du Comice, Horace Eaton,	2 00
nd, John McClure,	1 00
se d'Angouleme, Mrs. Mary Langmaid,	3 00
nd, John C. Park,	2 00
d, John L. Bird,	1 00
le, Marshall P. Wilder,	2 00
nd, A. S. McIntosh,	1 00
l, W. S. Janvrin,	2 00
ond, C. N. Brackett,	1 00
nce, Mrs. Mary Langmaid,	2 00
ond, John McClure,	1 00
e Bonne of Jersey, Mrs. Mary Langmaid,	2 00
cond, Horace Eaton,	1 00
e Louise, Hovey & Co.,	2 00
cond, John L. D'Wolf,	1 00
riam, Marshall P. Wilder,	2 00
cond, Charles F. Curtis,	1 00
ndaga or Swan's Orange, Horace Eaton,	2 00
econd, Warren Fenno,	1 00
adis d'Automne, Marshall P. Wilder,	2 00
econd, Hovey & Co.,	1 00
kel, John C. Park,	3 00

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Second, John L. Bird,	$2 00
Third, C. E. Grant,	1 00
Sheldon, A. S. McIntosh,	3 00
Second, Eben Snow,	2 00
Third, Mrs. Mary Langmaid,	1 00
Souvenir du Congrès, B. G. Smith,	2 00
Second, Warren Fenno,	1 00
St. Michael Archangel, Walker & Co.,	2 00
Second, T. M. Davis,	1 00
Urbaniste, Mrs. Mary Langmaid,	2 00
Second, John L. Bird,	1 00
Vicar of Winkfield, Hovey & Co.,	2 00
Second, William A. Morse,	1 00
Winter Nelis, Jacob Eaton,	2 00
Second, W. P. Walker,	1 00
Any other variety, Marshall P. Wilder, Clapp's Favorite,	2 00
Second, Walker & Co., Kingsessing,	1 00
PLUMS.—Collection of not less than four varieties, Horace Eaton,	4 00
Second, F. J. Dutcher,	3 00
Any one variety, F. J. Dutcher, McLaughlin,	2 00
Second, Mrs. H. V. Draper, Coe's Golden Drop,	1 00
NATIVE GRAPES.—Brighton, M. W. Chadbourne,	2 00
Second, Hovey & Co.,	1 00
Concord, William Doran & Son,	2 00
Second, Joseph S. Chase,	1 00
Delaware, B. G. Smith,	2 00
Second, Horace Eaton,	1 00
Massasoit, S. G. Damon,	2 00
Second, John C. Park,	1 00
Moore's Early, Horace Eaton,	2 00
Second, John B. Moore & Son,	1 00
Wilder, John B. Moore & Son,	2 00
Second, Marshall P. Wilder,	1 00
Worden, J. C. Lovell,	2 00
Second, Marshall P. Wilder,	1 00
Any other variety, S. G. Damon, Iona,	2 00
Second, B. L. Cullin, Harrington's Seedling,	1 00
FOREIGN GRAPES.—Four varieties, two bunches each, E. W. Wood,	8 00
Second, B. G. Smith,	6 00
Third, B. G. Smith,	4 00
Black Hamburg, two bunches, George Higginson,	4 00
Second, John L. Gardner,	3 00
Third, C. E. Grant,	2 00
Wilmot's Black Hamburg, John L. Gardner,	4 00
Second, D. W. Foster,	3 00
Muscat of Alexandria, Francis B. Hayes,	5 00
Any other variety, George Higginson, White Frontignan,	5 00
Second, John L. Gardner, " "	4 00

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:—

	Pears,		$3 00
urne,	"		3 00
on,	"		2 00
	"		2 00
all,	"		2 00
	"		1 00
Morse,	"		1 00
e,	"		1 00
tt,	"		1 00
,	"		1 00
,	"		1 00
Wilder,	"		1 00
no,	Apples,		3 00
Hall,	"		2 00
rtwell,	"		2 00
kett,	"		2 00
h,	"		2 00
adbourne,	"		1 00
Coe,	"		1 00
. Morse,	"		1 00
llonio,	Crab Apples,		1 00
wn,	Quinces,		1 00
lwen,	Plums,		2 00
ith,	"		1 00
V. Draper,	"		1 00
Painter,	"		1 00
oster,	Foreign Grapes,		1 00
Partridge,	" "		2 00
I. Ricketts,	Native Grapes,		2 00
l P. Wilder,	" "		1 00
S. Chase,	" "		1 00
towe,	" "		1 00
Doran & Son,	" "		1 00
Smith,	" "		1 00
McIntosh,	" "		1 00
manda Chandler,	" "		1 00
Talbot,	" "		1 00

SEPTEMBER 30.

Gratuity:—

J. Lothrop, Seedling Pears, 1 00

OCTOBER 7.

LES.—Holden Pippin, Samuel Hartwell, 2 00

Second, C. N. Brackett, 1 00

Gravenstein, Samuel Hartwell, 2 00

Second, W. P. Plimpton, 1 00

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Mother, E. W. Wood,	$2 00
Second, B. G. Smith,	1 00
Porter, A. S. McIntosh,	2 00
Second, Samuel McIntosh,	1 00
Any other variety, Henry F. Coe, King of Tompkins County,	2 00
Second, M. W. Chadbourne, Hubbardston Nonsuch,	1 00
PEARS.—Beurre Bosc, Mrs. Mary Langmaid,	2 00
Second, John C. Park,	1 00
Beurre Clairgeau, W. P. Plimpton,	2 00
Second, William T. Hall,	1 00
Beurre Superfin, John C. Park,	2 00
Second, William A. Crafts,	1 00
Doyenne du Comice, W. P. Plimpton,	2 00
Second, John C. Park,	1 00
Duchesse d'Angouleme, Mrs. H. P. Kendrick,	2 00
Second, Charles F. Curtis,	1 00
Louise Bonne of Jersey, Mrs. Mary Langmaid,	2 00
Second, T. M. Davis,	1 00
Seckel, John C. Park,	2 00
Second, John L. Bird,	1 00
Sheldon, Mrs. H. P. Kendrick,	2 00
Second, Charles F. Curtis,	1 00
Urbaniste, Mrs. Mary Langmaid,	2 00
Second, Aaron D. Capen,	1 00
Any other variety, Mrs. Jesse Haley,	2 00
Second, Warren Heustis,	1 00
QUINCES.—Any variety, B. G. Smith,	2 00
Second, Horace Eaton,	1 00
NATIVE GRAPES.—Brighton, M. W. Chadbourne,	2 00
Concord, Horace Eaton,	2 00
Second, William Doran & Son,	1 00
Delaware, S. G. Damon,	2 00
Second, Horace Eaton,	1 00
Diana, S. G. Damon,	2 00
Second, Horace Partridge,	1 00
Isabella, J. V. Wellington,	2 00
Second, Miss Sarah W. Story,	1 00
Moore's Early, John B. Moore & Son,	2 00
Any other variety, S. G. Damon,	2 00
Second, B. G. Smith,	2 00
FOREIGN GRAPES.—Two bunches, any variety, J. L. Gardner, Black Hamburg,	3 00
Second, B. G. Smith, Muscat Hamburg,	2 00
Gratuities:—	
A. S. McIntosh, Apples,	2 00
W. C. Eustis, "	1 00

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. Brackett, Pears,	$2 00
ıstus Bacon, "	2 00
V. Chadbourne, Pears,	2 00
Jesse Haley, "	1 00
I. Davis, "	1 00
. Grant, Pears and Apples,	2 00
. Damon, Grapes,	1 00
. Smith, Grapes and Apples,	2 00

OCTOBER 14.

Gratuities:—

ı Foster, Brighton Grapes,	1 00
. Grant, Pears,	1 00
ıund H. Hart, Federal Point, Florida, Japanese Persimmons, First-Class Certificate of Merit.	

OCTOBER 21.

Gratuities:—

T. Carleton, Quinces,	1 00
. H. L. T. Wolcott, Raspberries,	1 00
liam Read, Jr., Seckel Pears,	1 00
V. Nelson, " "	1 00

OCTOBER 28.

Gratuities:—

. Grant, Pears,	2 00
IcDermott, "	1 00
ın D. Capen, Pears,	1 00

NOVEMBER 4.

Gratuity:—

. Heffernan, Quinces,	1 00

NOVEMBER 9.

French Premiums.

LES.—Baldwin, Samuel Hartwell,	2 00
Second, C. E. Grant,	1 00
anvers Winter Sweet, C. N. Brackett,	2 00
Second, Warren Fenno,	1 00
ubbardston Nonsuch, M. W. Chadbourne,	2 00
Second, C. N. Brackett,	1 00
ınt Russet, Samuel Hartwell,	2 00
Second, Starkes Whiton,	1 00
ıg of Tompkins County, Edward Sumner,	2 00
Second, W. C. Eustis,	1 00
ıdy's Sweet, C. N. Brackett,	2 00

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Northern Spy, John B. Moore & Son,	$2 00
Second, W. C. Eustis,	1 00
Rhode Island Greening, C. N. Brackett,	2 00
Second, W. P. Plimpton,	1 00
Roxbury Russet, Cephas H. Brackett,	2 00
Second, Edward Sumner,	1 00

Society's Prizes.

Pears.—Beurre d' Anjou, Mrs. Mary Langmaid,	2 00
Second, B. C. Vose,	1 00
Beurre d' Aremberg, John L. Bird,	2 00
Beurre Langelier, A. S. McIntosh,	2 00
Second, Warren Fenno,	1 00
Dana's Hovey, W. P. Plimpton,	2 00
Second, A. S. McIntosh,	1 00
Doyenne du Comice, W. P. Plimpton,	2 00
Second, Mrs. Jesse Haley,	1 00
Glout Morceau, A. S. McIntosh,	2 00
Second, Samuel McIntosh,	1 00
Josephine de Malines, Warren Fenno,	2 00
Second, John L. Bird,	1 00
Lawrence, Augustus Bacon,	2 00
Second, Miss Mary Langmaid,	1 00
Vicar of Winkfield, William T. Hall,	2 00
Second, C. N. Brackett,	1 00
Winter Nelis, T. M. Davis,	2 00
Second, Jacob Eaton,	1 00
Any other variety, Augustus Bacon, Beurre Diel,	2 00
Second, Warren Fenno, Beurre Gris d'Hiver,	1 00

Gratuities:—

A. S. McIntosh, Apples,	3 00
Samuel Hartwell, "	3 00
Charles W. Grant, "	1 00
Lyman Titus, "	1 00
J. W. Talbot, "	1 00
M. W. Chadbourne, Pears,	2 00
Augustus Bacon, "	2 00
Mrs. A. R. Gates, "	2 00
Jacob Eaton, "	1 00
Warren Heustis, Apples and Pears,	1 00
C. E. Grant, " "	1 00
B. G. Smith, Grapes and Apples,	2 00
Horace Partridge, "	1 00
Miss Sarah W. Story, "	1 00
John B. Moore & Son, "	1 00
Robert Manning, *Carya alba* (Shagbark Hickory),	1 00

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REPORT

OF THE

ittee on Vegetables,

FOR THE YEAR 1882.

By C. N. BRACKETT, CHAIRMAN.

---

of 1882 opened under still more discouraging cir-
or the operations of the farm and garden than its
Rarely have we experienced a spring which has
nfavorable for horticultural operations generally than
lanting was later, and replanting more general, than
ırs, thereby causing delay, disappointment, and serious
cultivator. Even the "oldest inhabitant," on being
fails to recollect a more unpropitious season. The
by re-seeding alone, must in the aggregate have been

ınt of the unfavorable spring, and the long and unu-
re drought which followed, the prospect was so discour-
o cause a sharp rise in values in many of the leading
of the farm and garden, which in some instances was
ıtil the close of the season.

n, as the season advanced, the weather was more favor-
egetable growth, and the welcome rains and deferred
de the growing period nearly, if not fully, of the average
Many of our contributors sustained heavy loss from the
tinued drought in July and August. On light and gravelly
ıny crops were total failures, being literally burned up and
covery before the much-needed rains came. Yet, notwith-
ng all these drawbacks, contributors have managed to make

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quite creditable exhibits during the season, and are deservedly entitled to the thanks of the Society for the interest they have manifested under so many trying and discouraging circumstances.

There has been some slight improvement noticed in the displays of forced vegetables, which have been made from time to time during the winter and spring, which we hope may be continued. Your Committee trust that, at no distant day, the appropriation for this department may be increased, so that they may be able to offer suitable prizes for these objects, which so large a number of our members are successfully engaged in growing.

From the beginning of the year to the Azalea Exhibition, March 23, contributions of forced vegetables were made by, and gratuities awarded to, the following persons: January 21 and 28, Francis B. Hayes, very fine and well grown specimens of Mushrooms and Rhubarb. January 21, Mushrooms from Hovey & Co. February 11, Tennisball Lettuce from Josiah Crosby. February 18, Lettuce from George W. Pierce and Josiah Crosby. February 25, Tomatoes and Mushrooms from Cephas H. Brackett. March 4, George W. Pierce showed some fine specimens of Tennisball Lettuce; Henry R. Comley, Tomatoes; and Josiah Crosby, Lettuce and Radishes. March 11, we had Parsley from M. W. Chadbourne, and Radishes and Lettuce from J. Crosby. March 18, Josiah Crosby showed Radishes and Tennisball Lettuce.

The exhibition of forced vegetables at the Azalea Show was more limited than it should have been, the only good specimens being those shown by Josiah Crosby; and of these it is sufficient praise to say that they maintained their accustomed standard of excellence. The weekly shows were, of course, more or less affected by the unfavorable character of the season, but not to the extent which at one time was anticipated.

On June 10 the first prize for Rhubarb was awarded to John C. Hovey for Monarch; weight of twelve stalks twenty-six pounds. This is a new and desirable variety, of excellent quality, and well worthy the attention of those who grow this plant for market. The specimens shown were taken from a crowded nursery row, and had received only ordinary cultivation. With plenty of room for growth, and with generous culture, the exhibitor thinks it may be grown to double the size and weight of the specimens shown by him.

Two weeks later, Levi Emery exhibited twelve stalks of Victoria

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o, the weight of which was forty pounds. This weight has if ever, been surpassed at any previous exhibition of this

, although later than usual, were shown in great variety. arly kinds made their first appearance June 24, and were by M. W. Chadbourne. American Wonder took the first une 30, and Kentish Invicta the second. July 8, the Marvel est and the Advancer second. Champion of England was ted as late as September 30, in good condition, by Samuel ne.

et Corn and Tomatoes were both, also, behind the usual time. irst exhibition of Corn was on July 29, C. N. Brackett re- g the first prize, for Marblehead Early. This is the sweetest est of the early varieties, of fair market size, and, as such, a valuable acquisition to every garden.

the same date Samuel Hartwell showed the first Tomatoes of eason, winning the first and second prizes with Canada Victor Gen. Grant respectively. From this time throughout the sea- and especially at the Annual Exhibition, the display of this table was extensive, and excellent in quality. The varieties h have been most popular are the Acme, Livingston's Perfec- Emery, and Paragon. Your Committee do not entertain a ot that the Essex Hybrid, so called, is identical with the Acme, seedling so nearly resembling it, in color, quality, and habit, o be undeserving a separate name.

he hot, dry weather of July and August was favorable for the on. The crop was abundant and the quality excellent. The st specimens of the season were shown by George Hill, August nd 26, four of which more than filled a bushel box. Excellent imens of Greenflesh melons were also exhibited at the Annual ibition by C. F. Curtis, Warren Heustis, and C. E. Calder, e gentlemen taking the prizes in the order named.

Upon the exhibition of the various root crops, no special com- nts are necessary; the displays have been abundant, and as isfactory in quality as usual.

Early Cauliflowers this season were not a success; there was no npetition for the prizes previous to the Annual Exhibition. At s exhibition John Cummings took both the special and the first gular prize offered for Cauliflowers.

The doleful accounts in regard to the condition of the various

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crops, which your Committee were wont to receive from contributors, from week to week, during the season, led them to expect that, so far as this department was concerned, our Annual Exhibition was likely to prove a failure; but we were agreeably disappointed, as this exhibition surpassed that of the previous year, both in quantity, quality, and in the number of contributors. It was a success very gratifying to the Committee in charge, and highly satisfactory to the public, as well as to the members themselves.

The display of Potatoes was more extensive, of better quality, and the specimens were finer, than have usually been exhibited on such an occasion; a credit to any society, state, or country. Among the most attractive varieties of superior quality, we may name the Clark's No. 1, Beauty of Hebron, Early Rose, Brownell's Best, Early Telephone, Mayflower, Pride of America, Belle, Early Sunrise, White Elephant, Winslow's Seedling, Champion of America, and a new and very promising variety from Albert Bresee, of Hubbardton, Vermont (the originator of the Early Rose, and other valuable varieties), which he has named the Advance. With this new seedling came the following note:

"September 18, 1882.

"*To the Chairman of the Committee on Vegetables:*

"Today I send by express one peck of my new seedling potato, Advance, for exhibition and competition for prize No. 66. It ripens with the Early Rose, and I consider it superior to that fine variety in quality and yield. The season here has been very dry, and my Advance are not up to their usual size, color, or quality. I intend to enter them for the Prospective Prize next year.

"Yours very truly,

"ALBERT BRESEE."

If this new seedling should prove to be as early, hardy, productive, and of as good quality as the Early Rose, it will indeed be an acquisition, and of great importance to the country. The specimens were very handsome and attracted much attention, as did also the new seedlings from E. S. Brownell, Early Telephone and Brownell's Best, which were shown here for the first time at the Annual Exhibition last year, and described in our last report. Mr. Brownell has signified his intention to enter the Early Telephone

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Prospective Prize as the best early, and Brownell's Best for
ne prize as the best late potato.
llection of nine unnamed seedlings was also exhibited by
Bliss & Son, several of which we should judge, from their
ance, were worth proving.
list of awards will indicate the exhibition of other objects
ning which we have nothing new to note. The annual ap-
ation by the Society for this department was $500; income
he Whitcomb fund, $30, making a total of $530. Of this
t the Committee have awarded $527, leaving an unexpended
e of $3.
h the annexed list of Awards of Premiums, this report is
tfully submitted.

C. N. Brackett,
Walter Russell,
Josiah Crosby,
George W. Pierce,
Samuel Hartwell,
C. E. Grant,
M. W. Chadbourne,
} *Vegetable Committee.*

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PRIZES AND GRATUITIES AWARDED FOR VEGETABLES.

JANUARY 21.

Gratuities:—

Francis B. Hayes, Mushrooms and Rhubarb,	$2 00
Hovey & Co., Mushrooms,	1 00

JANUARY 27.

Gratuity:—

Francis B. Hayes, Mushrooms and Rhubarb,	2 00

FEBRUARY 11.

Gratuity:—

Josiah Crosby, Lettuce,	1 00

FEBRUARY 18.

Gratuities:—

George W. Pierce, Lettuce,	1 00
Josiah Crosby, Lettuce and Radishes,	1 00

FEBRUARY 25.

C. H. Brackett, Tomatoes and Mushrooms,	1 00

MARCH 4.

George W. Pierce, Lettuce,	2 00
Henry R. Comley, Tomatoes,	2 00
Josiah Crosby, Lettuce,	1 00

MARCH 11.

Gratuities:—

M. W. Chadbourne, Parsley,	1 00
Josiah Crosby, Lettuce and Radishes,	2 00

MARCH 18.

Gratuity:—

Josiah Crosby, Lettuce and Radishes,	2 00

AZALEA AND ROSE EXHIBITION.

MARCH 23.

RADISHES.—Four bunches Turnip Rooted, Josiah Crosby,	$3 00
LETTUCE.—Four heads Tennisball, J Crosby,	3 00

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.—Two quarts, H. R. Comley, ... $2 00
›nd, William Patterson, ... 1 00

:tuity :—
›mley, Tomatoes, ... 2 00

APRIL 8.

ıtuities :—
Russell, Collection, ... 2 00
omley, Tomatoes, ... 2 00
Crosby, Radishes and Lettuce, ... 2 00

APRIL 15.

atuities :—
R. Comley, Tomatoes, ... 1 00
Brackett, Cucumbers, ... 1 00

MAY 6.

ratuities :—
Crosby, Collection, ... 2 00
Brackett, Cucumbers, ... 1 00

MAY 13.

ratuities :—
e Dorr, Rhubarb, ... 1 00
Brackett, Cucumbers and Rhubarb, ... 2 00
. Chadbourne, Rhubarb, ... 1 00
Comley, Tomatoes, ... 1 00

MAY 20.

ratuity :—
:r Russell, Two varieties Radishes, ... 2 00

MAY 27.

ratuities :—
. Capen, Asparagus and Rhubarb, ... 2 00
. Chadbourne, Asparagus, ... 1 00
h Crosby, Collection, ... 2 00

JUNE 3.

Gratuities :—
uel Hartwell, Asparagus, ... 1 00
N. Chadbourne, Rhubarb, ... 1 00

JUNE 10.

ROTS.—Twelve Short Scarlet, Josiah Crosby, ... 2 00
ISHES.—Twelve Turnip Rooted, Walter Russell, . . . 2 00
ong Scarlet, Walter Russell, ... 2 00
Second, Josiah Crosby, ... 1 00
ARAGUS.—Four bunches, J. B. Moore, ... 2 00
Second, Samuel Hartwell, ... 1 00

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Cucumbers.—Pair, E. W. Wood,	$2 00
Second, J. Crosby,	1 00
Lettuce.—Four heads, J. Crosby, Tennisball,	2 00
Second, J. Crosby, Boston Curled,	1 00
Rhubarb.—Twelve stalks, John C. Hovey, Monarch, weight 26 lbs.	2 00
Second, M. W. Chadbourne, Victoria, weight 16½ lbs.	1 00
Gratuities:	
James Lawrence, Cauliflowers,	1 00
L. W. Weston, Asparagus,	1 00
Marshall P. Wilder, Cucumbers,	1 00
Walter Russell, Onions and Parsley,	1 00
Samuel Hartwell, Rhubarb,	1 00
C. E. Grant, "	1 00

June 24.

Gratuities:—	
M. W. Chadbourne, Peas, two varieties,	2 00
Levi Emery, Victoria Rhubarb; weight of twelve stalks, 40 lbs.,	1 00

ROSE AND STRAWBERRY SHOW.

June 30.

Beets.—Turnip Rooted, J. Crosby,	$2 00
Egyptian, J. Crosby,	2 00
Second, Samuel G. Stone,	1 00
Carrots.—Intermediate, J. Crosby,	2 00
Onions.—Twelve, J. Crosby,	2 00
Second, S. G. Stone,	1 00
Cucumbers.—Pair, E. W. Wood,	2 00
Second, J. Crosby,	1 00
Lettuce.—Four heads, Francis B. Hayes,	2 00
Peas.—Peck, C. E. Grant, American Wonder,	2 00
Second, S. G. Stone, Kentish Invicta,	1 00
Gratuities:—	
Samuel Hartwell, Peas,	1 00
George W. Pierce, Cucumbers,	1 00
Josiah Crosby, Collection,	1 00

July 8.

Onions.—Twelve, J. Crosby,	2 00
Second, S. G. Stone,	1 00
Squashes.—Four Long Warted, J. Crosby,	2 00
Peas.—Peck, J. L. Gardner, Marvel,	2 00
Second, S. G. Stone, Advancer,	1 00

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ties :—

:twell, Peas,	$1 00
t, "	1 00
e, "	1 00

F. Jones, Hogansville, Troup Co., Georgia, Wheat and
, First Class Certificate of Merit.

JULY 15.

ities :—

osby, Collection,	2 00
. Stone, "	2 00

JULY 29.

s.—Four Marrow, J. Crosby,	3 00
ORN.—Twelve ears, C. N. Brackett,	3 00
nd, Samuel G. Stone,	2 00
ES.—Twelve, Samuel Hartwell, Canada Victor,	3 00
nd, Samuel Hartwell, Gen. Grant,	2 00

tuities :—

Weston, Early Rose Potatoes,	2 00
Chadbourne, Beauty of Hebron Potatoes,	2 00
rant, Marblehead Corn,	1 00
well. Narragansett "	1 00
by, two varieties Onions,	1 00

AUGUST 5.

ES.—Four Marrow, J. Crosby,	2 00
CORN.—Twelve ears, J. Crosby,	2 00
cond, C. E. Grant,	1 00
OES.—Gen. Grant, S. Hartwell,	2 00
ry, S. Hartwell,	2 00
other variety, C. N. Brackett, Acme,	2 00
econd, S. Hartwell, Canada Victor,	1 00

Gratuities :—

Weston, Beauty of Hebron Potatoes,	2 00
el G. Stone, Sweet Corn,	1 00
el Hartwell, Collection,	1 00
Grant, "	1 00

AUGUST 12.

Gratuities :—

V. Chadbourne, Beauty of Hebron Potatoes,	1 00
ardner, Peppers,	1 00
uel Hartwell, Tomatoes,	2 00
. Brackett, Acme Tomatoes,	1 00
. Stone, Corn,	1 00

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C. E. Grant, Lima Beans, ... $1 00
" " " Collection, ... 2 00
Francis B. Hayes, Artichokes, ... 1 00

AUGUST 19.

GREENFLESH MELONS.—Four, George Hill, ... 2 00
MUSKMELONS.—Four, the second prize to Samuel Hartwell, . . 1 00

Gratuities:—

Mrs. E. M. Gill, Corn, ... 1 00
C. E. Grant, " 1 00
N. B. White, Potatoes, ... 1 00
Samuel Hartwell, Collection, ... 2 00
S. G. Stone, " 1 00
C. N. Brackett, " 1 00

AUGUST 26.

POTATOES.—Peck, J. Crosby, Early Rose, ... 2 00
Second, L. W. Weston, Beauty of Hebron, ... 1 00
LIMA BEANS.—Two quarts, B. G. Smith, ... 3 00
Second, C. E. Grant, ... 2 00
Third, W. K. Wood, ... 1 00
PEPPERS.—Twelve, C. N. Brackett, ... 3 00
Second, Josiah Crosby, ... 2 00

Gratuities:—

George Hill, Greenflesh Melons, ... 3 00
M. W. Chadbourne, Collection, ... 2 00
S. Hartwell, " 2 00
C. N. Brackett, " 2 00
C. E. Grant, " 2 00

SEPTEMBER 2.

GREENFLESH MELONS.—Four, J. Crosby, ... 3 00

Gratuities:—

Mrs. E. M. Gill, Collection, ... 1 00
C. N. Brackett, " 1 00
C. E. Grant, " 1 00

SEPTEMBER 9.

CELERY.—Four roots, the second prize to Josiah Crosby, . . 2 00

Gratuities:—

J. Crosby, Melons, ... 1 00
C. L. Fowle, Tomatoes, ... 1 00
Samuel Hartwell, Collection, ... 2 00
C. E. Grant, " 3 00
C. N. Brackett, " 2 00

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ANNUAL EXHIBITION.

SEPTEMBER 19, 20, 21, AND 22.

Special Prizes.

AULIFLOWERS.—Best four, John Cummings,	$5 00
ELERY.—Four specimens, J. Crosby,	5 00

Regular Prizes.

ETS.—Twelve, Mrs. M. T. Goddard,	3 00
Second, George F. Stone,	2 00
Third, Josiah Crosby,	1 00
RROTS.—Intermediate, George Hill,	3 00
Second, John Cummings,	2 00
Third, Walter Russell,	1 00
ong Orange, Walter Russell,	3 00
SNIPS.—Twelve, J. L. DeWolf,	3 00
Second, M. W. Chadbourne,	2 00
Third, Walter Russell,	1 00
ATOES.—Four varieties, one peck each, C. N. Brackett,	4 00
Second, Mrs. M. T. Goddard,	3 00
Third, G. W. Jameson,	2 00
rly Rose, John Cummings,	3 00
econd, S. A. Merrill,	2 00
hird, G. W. Jameson,	1 00
k's No. 1, Henry Ross,	3 00
econd, Mrs. M. T. Goddard,	2 00
hird, G. W. Jameson,	1 00
ity of Hebron, L. W. Weston,	3 00
cond, C. B. Lancaster,	2 00
ird, G. W. Jameson,	1 00
other variety, Albert Bresee, Advance,	3 00
ond, C. B. Lancaster, White Elephant,	2 00
rd, Starkes Whiton, Champion of America,	1 00
tion *of New* Seedling varieties, B. K. Bliss & Son, Silver Medal.	
—*Twelve,* J. L. DeWolf,	3 00
nd, J. Cummings,	2 00
d, George H. Rich,	1 00
—Twelve Flat, George H. Rich,	3 00
nd, Francis B. Hayes,	2 00
, George Dorr,	1 00
, Mrs. M. T. Goddard,	3 00
d, Francis B. Hayes,	2 00
, A. T. Brown,	1 00

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Onions.—Peck of Danvers Yellow, J. Cummings,	$3 00
Second, J. Crosby,	2 00
Third, George Hill,	1 00
Red, J. Cummings,	3 00
Second, Walter Russell,	2 00
White, J. Cummings,	3 00
Second, Walter Russell,	2 00
Third, Josiah Crosby,	1 00
Greenflesh Melons.—Four, C. F. Curtis,	3 00
Second, Warren Heustis,	2 00
Third, C. E. Calder,	1 00
Muskmelons.—Four, J. Cummings,	3 00
Second, A. D. Capen,	2 00
Third, S. A. Merrill,	1 00
Watermelons.—Two, S. Lawrence,	3 00
Second, Samuel Hartwell,	2 00
Third, John Cummings,	1 00
Squashes.—Four Canada, George Dorr,	3 00
Second, C. E. Calder,	2 00
Third, J. Cummings,	1 00
Hubbard, S. W. Hathaway,	3 00
Second, Samuel Hartwell,	2 00
Third, George Hill,	1 00
Marblehead, S. W. Hathaway,	3 00
Second, J. Cummings,	2 00
Marrow, J. Cummings,	3 00
Second, George Hill,	2 00
Third, Warren Heustis	1 00
Turban, S. W. Hathaway,	3 00
Second, J. Cummings,	2 00
Third, Samuel Hartwell,	1 00
Cabbages.—Four Drumhead, J. Cummings,	3 00
Second, Joseph Swan,	2 00
Third, Mrs. M. T. Goddard,	1 00
Red, J. Cummings,	3 00
Second, Mrs. M. T. Goddard,	2 00
Savoy, Three, J. Cummings,	3 00
Second, S. G. Stone,	2 00
Third, Mrs. M. T. Goddard,	1 00
Cauliflowers.—Four, J. Cummings,	3 00
Celery.—Four roots, J. Crosby,	3 00
Third prize, Henry Ross,	1 00
Horseradish.—Six roots, the second prize to Benjamin G. Smith,	2 00
Lima Beans.—Two quarts, B. G. Smith,	3 00
Second, S. G. Stone,	2 00
Third, C. E. Grant,	1 00

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Sweet Corn.—Twelve specimens, John Cummings,	$3 00
Second, S. G. Stone,	2 00
Third, S. A. Merrill,	1 00
Field Corn.—Twenty-five ears, Mrs. M. T. Goddard,	3 00
Second, C. N. Brackett,	2 00
Third, Robert Elder,	1 00
Egg Plant.—Four Round Purple, J. G. Coolidge,	3 00
Second, Walter Russell,	2 00
Tomatoes.—Three varieties, Samuel Hartwell,	4 00
Second, George W. Pierce,	3 00
Third, C. N. Brackett,	2 00
Acme, Twelve specimens, S. Hartwell,	2 00
Second, W. S. Janvrin,	1 00
Boston Market, S. Hartwell,	2 00
Second, C. E. Grant,	1 00
Emery, C. E. Grant,	2 00
Second, S. G. Stone,	1 00
Gen. Grant, C. E. Grant,	2 00
Second, S. Hartwell,	1 00
Any other variety, George Hill, Mayflower,	2 00
Second, S. G. Stone, Paragon,	1 00
Martynias.—Twenty-four, L. W. Weston,	2 00
Second, George W. Pierce,	1 00
Okra.—Twenty-four, Mrs. M. T. Goddard,	2 00
Second, C. N. Brackett,	1 00
Peppers.—Twenty-four, George F. Stone,	3 00
Second, C. N. Brackett,	2 00
Third, C. E. Calder,	1 00
Cranberries.—Half-peck, Miss Annie M. Tilley,	2 00
Second, J. W. Talbot,	1 00

Gratuities :—

John Cummings, Collection,	6 00
Samuel Hartwell, "	2 00
M. W. Chadbourne, "	2 00
C. N. Brackett, "	2 00
J. G. Coolidge, "	2 00
C. V. Whitten, "	1 00
Samuel G. Stone, "	1 00
M. B. Faxon, "	1 00
Robert Elder, Beets,	1 00
Aaron Low, Collection of Potatoes,	3 00
E. S. Brownell, Potatoes,	2 00
George W. Pierce, Melons,	1 00
Francis B. Hayes, "	1 00
S. A. Merrill, Squash,	1 00
E. Sheppard, Cucumbers,	1 00

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C. E. Calder, Lettuce,	$1 00
Walter Russell, Horseradish,	1 00
Hiram Sibley & Co., New Dent Corn,	1 00
C. F. Smith, Rye,	1 00
C. E. Grant, Tomatoes,	1 00

SEPTEMBER 30.

Gratuity :—

Samuel G. Stone, Collection,	2 00

OCTOBER 7.

SALSIFY.—Twelve specimens, M. W. Chadbourne,	2 00
CABBAGES.—Three Drumhead, Mrs. M. T. Goddard,	2 00
Second, Samuel G. Stone,	1 00
Red, Mrs. M. T. Goddard,	2 00
Savoy, " " " "	2 00
Second, S. G. Stone,	1 00
BRUSSELS SPROUTS.—Half-peck, Mrs. M. T. Goddard,	2 00
CELERY.—Four roots, J. Crosby,	2 00
Second, W. Patterson,	1 00

Gratuities :—

Benj. G. Smith, Lima Beans,	1 00
G. W. Jameson, Barberries,	1 00
Horace Partridge, Potatoes,	1 00
Samuel G. Stone, Collection,	3 00
C. N. Brackett, "	2 00
C. E. Grant, "	2 00

OCTOBER 14.

Gratuity :—

C. E. Grant, Collection,	1 00

OCTOBER 21.

Gratuity :—

Samuel G. Stone, Collection,	1 00

OCTOBER 28.

Gratuities :—

Samuel G. Stone, Collection,	1 00
C. E. Grant, "	1 00

NOVEMBER 4.

Gratuity :—

Josiah Crosby, Celery,	2 00

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NOVEMBER 9.

CAULIFLOWERS.—Four specimens, the second prize to J. L. Gardner,	$1 00
CELERY.—Four roots, Josiah Crosby,	2 00
Second, W. Patterson,	1 00
Gratuities:—	
Francis B. Hayes, Collection,	1 00
C. E. Grant, "	1 00
S. G. Stone, "	2 00
Cephas H. Brackett, Cucumbers and Tomatoes,	1 00

DECEMBER 23.

Gratuities:—	
William D. Philbrick, Lettuce,	1 00
Cephas H. Brackett, Tomatoes,	1 00

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REPORT

OF THE

Committee of Arrangements,

FOR THE YEAR 1882.

The Committee of Arrangements respectfully submit the following report:

The several exhibitions, during the past year, have been well attended, and were satisfactory to the members of the Society and the public. Each one was carefully looked after and arranged, the Committee of Arrangements being divided into sub-committees, with special duties assigned to each, in order to facilitate the labor where so many details were to be attended to, and to prevent working to disadvantage. Sub-committees of three each, for fruits, flowers, and vegetables, were appointed to take charge of and arrange the tables of each department, to receive contributions and find places for contributors, and to see that all were satisfied with the disposition of the various products offered for exhibition, in which we believe there was no cause found for complaint.

A sub-committee, also of three, had charge of printing, advertising, and minor details, which required much care and forethought. All these sub-committees worked in harmony, the result of which has been good exhibitions that were highly gratifying to the numerous visitors.

It is not within our province to give any detailed or minute description of the various products exhibited, as this has already been done in the reports of the Committees on Fruits, Flowers, and Vegetables; and we need only allude to them in a general way, by saying that, notwithstanding the very hot and dry summer, from which all vegetation in this vicinity suffered much during the severe and protracted drought, the quantity and quality far surpassed expectation.

The receipts from the sale of tickets at the Azalea, Rose, Chrys-

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anthemum, and Annual Exhibitions, have been satisfactory; the amount of money received was duly paid over to the Treasurer, and his receipts were taken therefor, the account of which can be found in his report, rendering a repetition unnecessary.

The interest shown by the public in the exhibitions of the Society during the year has been of the most encouraging kind. The constantly increasing love and taste for the cultivation of Fruits, Plants, Flowers, and Vegetables, give us every reason to believe that the most prosperous years of the Society are yet to come.

Evidence of the great progress made by the Massachusetts Horticultural Society in promoting an interest in gardening and the cultivation of new and improved varieties of fruits, flowers, and vegetables, can be seen not only in this vicinity, but everywhere; and, although more than fifty years have passed away since the Society was established, there is, as there always has been, a steady growth in its welfare and prosperity. At every meeting of the Society, new members are coming forward to engage in and continue the great and important work begun by its founders, which, thus far, has proved an inestimable blessing, and in the future will be of still greater benefit to the whole country.

C. H. B. BRECK, *Chairman.*

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REPORT

OF THE

COMMITTEE ON PUBLICATION AND DISCUSSION,

FOR THE YEAR 1882.

Upon occasions like the present, we are inclined to glance backward over the past, and mark the progress made in Horticulture.

The meetings for discussion the past season, were the most successful series ever held by the Society.

Our thanks are due to the perseverance, energy, skill and science of a few large-hearted and philanthropic individuals, whose lives are monuments of industry, integrity, and usefulness, for the present advanced state of Horticulture in our country, and to no one man are we more largely indebted than to the distinguished head, for more than a third of a century, of the American Pomological Society, whose cheerful and hopeful nature and words of wisdom and encouragement, have stimulated many of us in our investigations and labors.

The Chairman would especially remember the services of his associate, John B. Moore, on whom, during the illness of the Chairman, the labor of providing and arranging for the meetings largely devolved, and who deserves the hearty thanks of all who have profited by these meetings, and indeed of all the members of the Society.

Let us not be satisfied with our present attainments. Let us compare our experience and results; let us stimulate each other to still greater exertions for the advancement of our common cause. Let us endeavor to disseminate the knowledge of the few among the many, that we may improve the public taste and confer on our country the blessings of our favorite art.

Horticulture is emphatically a peaceful occupation; it requires

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science to direct, intelligence to guide, industry to accomplish, and a fee simple in the soil, for its successful management. And then, in the wide range of human effort, we know of no occupation more satisfactory.

But few copies of the History of the Society have been disposed of this year, and the Committee fear that the members do not appreciate this record of the work of the Society during the first fifty years of its existence. If they were aware of its value, a much larger number of copies would have been called for.

Prizes for essays were offered by the Committee this year, as in former seasons, but the number of manuscripts competing for the prizes has been quite limited, and the essays were not of sufficient interest for your Committee, after careful consideration, to accept.

We are again under special obligations to the Secretary for the thorough and admirable digest of the discussions, and supervision of all our printed reports.

Respectfully submitted for the Committee,

BENJAMIN G. SMITH, *Chairman.*

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also several periodicals not yet on our list, to which we ought to be subscribers.

Two years ago, the Library Committee recommended that two book-cases be placed against the western side of this room. In the first part of the present year, the busts which had long stood on brackets against the wall were removed with their supports, and a capacious book-case put in their place; but, large as the case was, it was almost immediately filled up, and, today, the Committee must, as for so many years before, call the attention of the Society to the fact that more room for books is needed.

Last year, the Committee stated in their report that two of the catalogues which had been sent to the Society by dealers were missing from the table. Not only have these not been returned, but others have disappeared during the year, as well as some of the agricultural papers. We, therefore, desire to repeat that these catalogues have been collected by means of much painstaking and correspondence, and that they are not for distribution. The Committee is very reluctant to remove them from the table where they are so accessible, and, therefore, earnestly requests all members of the Society to be as particular, when taking out these catalogues, to have them properly charged by the Librarian upon his record, as they would be in the case of any other book.

For many years past, the Committee has urged upon the Society the great need of a catalogue of its plates, representing that this necessity was increasing in the precise ratio of the increase of plates, of which we accumulate hundreds, if not thousands, every year. We are now very glad to announce that this work has been begun, and that substantial progress has been made. Early in the year the Executive Committee granted one hundred dollars for the purpose, and for that sum no less than thirteen thousand cards have been written. That is, we now have an index to thirteen thousand figures of plants, mostly colored, which before could have been found only by long search, and in many cases only by accident. The greater part of these cards have been verified by comparing them carefully with the plates, and as soon as a cabinet can be prepared to receive them, they will be arranged in alphabetical order, so that any person desiring to find a figure of any plant or fruit, can do so with a very slight expenditure of time. There are in our library, by careful estimate, almost a quarter of a million plates, hitherto almost as obscurely buried as the remains

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Merian, Marie Sibille. Histoire des Insectes de l'Europe, etc. Large folio. 93 plates of insects and plants. Translated from Dutch into French, by Jean Maaret, M. D. Amsterdam: 1730. Also, in the same volume, Dissertation sur la Generation et les Transformations des Insectes de Surinam, etc. Many plates. La Haye: 1726.

Warner, Robert, and B. S. Williams. The Orchid Album, comprising Colored Figures and Descriptions of New, Rare, and Beautiful Orchidaceous Plants. Vol. 1, Parts 5–12; Vol. 2, Parts 13–16, in continuation. 4to. Colored plates. London: 1881–1882.

Fitzgerald, R. D., F. L. S. Australian Orchids. Folio. Parts 3 and 4 in continuation. 30 plates. Sydney, N. S. W.

Pallas, P. S., Eq., Species Astragalorum Descriptae et Iconibus Coloratis Illustratae. Cum Appendice. Folio. 99 colored plates. Leipsic: 1800.

Baillon, H. Histoire des Plantes. Vol. 8. Monographie des Composées. 8vo. 131 wood-cuts. Paris: 1882.

Forster, Carl Friederich. Handbuch der Cacteenkunde, etc. 16mo. Leipzig, 1846.

Pierre, L., Directeur de Jardin Botanique de Saïgon. Flore Forestière de la Cochin Chine. 4e fascicule. Folio. 16 plates. Paris.

Regel, Dr. Edward. Flora of Turkestan. Vol. 3, Part 2. Descriptions of New and Rare Plants. 4to. Moscow and Berlin: 1882.

Jacquin, Nicolaus Josephus. Floræ Austriacæ sive Plantarum Selectarum in Austriæ Archiducatu sponte crescentium, icones, ad vivum coloratæ, et descriptionibus ac synonymis illustratæ. 5 vols. Folio. 500 colored plates. Vienna: 1773–1778.

Sturm, Jacob. Deutschlands Flora, etc. 18mo. 1,440 colored plates of Phanerogamen, 416 Cryptogamen, and 480 Pilze. Nuremberg, 1791—1855.

Schlechtendahl, Dr. D. F. L. Von, Dr. L. E. Langethal, und Dr. Ernst Schenck. Flora von Deutschland, Fünfte auflage, von Dr. Ernst Hallier. Lieferungen 48–56, in continuation. Small 8vo. Many colored plates. Gera-Untermhaus: 1881-1882.

Cesati, V., G. Passerini, and G. Gibelli. Compendio Flora Italiana. Fasc. 28, Plates 82 and 83, in continuation. Royal 8vo. Bologna, Milan, and Naples, 1881.

Willkomm, Maurice. Illustrations Florae Hispaniae insularumque Balearium, etc. Livraisons 1-3. 4to. 28 plates. Stuttgart: 1881.

Verlot, B. Les Plantes Alpines. Choix des plus belles espèces; Description, Station, Excursions, Culture, Emploi. 2d edition. Royal 8vo. 50 colored plates; 78 wood-cuts. Paris: 1873.

Graf, F. Die Alpenpflanzen. Hefte 35–41 in continuation. 16mo. 63 colored plates. Prague: 1882.

Leresche, Louis, et Émile Levier. Deux Excursions Botaniques dans le Nord de l'Espagne et le Portugal, en 1878 et 1879. 8vo. 9 plates. Lausanne: 1880.

Briard, M. Catalogue Raisonné des Plantes observées jusqu'a ce jour qui

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Easy Lessons in Botany, according to the Requirements of Revised Code, 1880. By the author of "Plant Life," with 120 illustrations by the author. 16mo. pamphlet. London: 1881.

Gardeners' Chronicle and Agricultural Gazette. The Horticultural part edited by Professor Lindley. 6 vols. Folio. 1849–1854, completing the set. London: 1849–1854.

Henfrey, Arthur, F. R. S., F. L. S., Thomas Moore, F. L. S., William P. Ayres, C. M. H. S., and other cultivators. The Garden Companion and Florists' Guide, January to October, 1852. 4to. 20 colored plates and many wood-cuts. London: 1852.

Wood, John Frederick, F. H. S. The Midland Florist and Suburban Horticulturist. 11 vols. 12mo. 1847–1857. Vol. 11 is edited by Alfred G. Sutton, and is Vol. 1, New Series.

Linnean Society of London. Transactions. Second Series, Botany. Vol. 1, Parts 7, 8 and 9, and Vol. 2, Part 1, in continuation. 4to. 44 pl. London: 1880, 1881.

Royal Agricultural Society. Journal. Second Series. Vol. 17, Part 2, and Vol. 18, in continuation. 8vo. London: 1881, 1882.

Hibberd, Shirley. The Garden Oracle and Illustrated Floricultural Year Book, 1882. Twenty-fourth year of publication. Small square 8vo. Wood-cuts. London: 1882.

Le Bon Jardinier Almanach pour l'Année 1856. Thick 12mo. Paris.

Reider, Jacob Ernst von. Annalen der Blumisterei für Blumenfreunde, Gartenbesiker und Saamenhandler. 12 vols. Small 8vo. 288 colored plates. Nürnberg und Leipzig: 1825–1836.

Gerstenberg, C. Der Gartenbeobachter. 6 vols. Small 8vo. 144 colored plates. Nürnberg, 1837–1842. [Successor to the preceding.]

Neubert, Wilhelm. Deutsches Magazin für Garten und Blumenkunde. Vol. 1. 8vo. Colored and other plates. Stuttgart: 1848.

Zippel, Hermann, und Carl Bollmann. Repräsentanten Einheimischer Pflanzenfamilien in farbigen Wandtafeln mit erläuterndem text, im anschluss an die "Ausländischen Culturpflanzen." Erste Abtheilung; Kryptogamen, with a portfolio of 12 colored plates; Zweite Abtheilung, 1st and 2d Lieferungen, with 24 colored plates. Text 8vo. Plates, double page folio. Braunschweig: 1879–1881.

Vegetable Substances used in the Arts and in Domestic Economy. Timber, Trees, Fruits; Materials of Manufactures; The Food of Man. 3 vols. 12mo. Many wood-cuts. London: 1830, 1832, and 1833. [The Library of Entertaining Knowledge.]

Smith, John, A. L. S. A Dictionary of Popular Names of the Plants which furnish the Natural and Acquired Wants of Man, in all matters of Domestic and General Economy; their History, Products, and Uses. 8vo. London: 1882.

Von Mueller, Baron Ferd., C. M. G., M. & Ph. D., F. R. S. Select Plants readily eligible for Industrial Culture or Naturalization in Victoria, etc. 8vo. Melbourne: 1876.

Vianne, Ed. La Culture Économique, par l'emploi raisonné des instru-

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Hogg, Robert, LL.D., F. L. S., editor. The Herefordshire Pomona, containing colored figures and descriptions of the most esteemed kinds of Apples and Pears. Part 4, in continuation. Folio. Colored plates and wood-cuts. London and Hereford: 1881.

Bunyard, George, F. R. H. S. Fruit Farming for Profit. Small 8vo. Maidstone and London: 1881.

Greig, W. The Flower Growers' Guide. 24mo. Colored plates. London: 1841.

Wellcome, Mrs. M. D. Talks about Flowers. Square 12mo. Wood-cuts. Yarmouth, Maine: 1881.

Jerrold, Tom and Jane. Household Horticulture; a Gossip about Flowers. Small 8vo. Wood-cuts. London: 1881.

Oakey, Alexander F. Home Grounds. 12mo. 29 wood-cuts. New York: 1881.

Church, Ella Rodman. The Home Garden. 12mo. Wood-cuts. New York: 1881.

Ellwanger, H. B. The Rose; a Treatise on the Cultivation, History, Family Characteristics, etc., of the various groups of Roses, with accurate descriptions of the varieties now generally grown. 12mo. New York: 1882.

Parsons, Samuel B. A Treatise on the Propagation, Culture, and History of the Rose. New and revised edition. Illustrated. 12mo. New York: 1881.

Fish, D. T. The Chrysanthemum, Its History, Varieties, Cultivation, and Diseases. 8vo. pamphlet. 7 wood-cuts. London: 1882.

Martens, Georg von. Die Gartenbohnen. Ihre Verbreitung, Cultur, und Benützung. 4to. 13 colored plates. 2d edition, enlarged. Ravensburg: 1869.

Calwer, Dr. C. G. Deutschlands Feld und Gartengewächse. 4to. 36 colored plates. Stuttgart: 1852.

Lebeuf, V.-F. Les Asperges, les Fraises, les Figues, les Framboises et les Groseilles. 8th edition. 18mo. 27 wood-cuts. Paris: 1881.

——— ———. L Horticulteur Gastronome. Bons Légumes et Bons Fruits, etc. 18mo. Paris: 1877.

Fitz, James. Sweet Potato Culture; giving full instructions from Starting the Plants to Harvesting and Storing the Crop, with a chapter on the Chinese Yam. 12mo. pamphlet. New York: 1882.

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Hyde, J. Burrows, C. E. Treatment and Uses of Peat and Peaty Material, etc. 24mo. New York: 1866.

Treat, Mrs. Mary. Injurious Insects of the Farm and Garden. 12mo. 163 wood-cuts. New York: 1882.

Franks, Dr. B. Die Krankheiten der Pflanzen, etc. 2 parts. 8vo. 149 wood-cuts. Breslau: 1880, 1881.

Britten, James, F. L. S. European Ferns, with colored illustrations from Nature, by D. Blair, F. L. S. Parts 28–30, completing the work. 4to. London, Paris, and New York.

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Case, L. B. Botanical Index. Vol. 3, Nos. 2 and 4; Vol. 4, No. 2, completing the work. 3 pamphlets, 8vo. Richmond, Indiana. The Editor.

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Société Centrale d'Horticulture du Département de la Seine Inférieure. Bulletin, Tome 23, Cahiers 3 and 4, 1881; Tome 24, Cahiers 1 and 2, 1882. Catalogue des Fruits Moulés de Pressoir faisant partie des Collections de la Société. 8vo. pamphlet. Rouen: 1882. The Society.

R. Società Toscana di Orticultura. Bulletino; Vol. 6, Nos. 11 and 12, 1881; Vol. 7, Nos. 1–10, 1882. 8vo. Florence: 1881, 1882. The Society.

Copenhagen Society for the Promotion of Horticulture. Premium Lists, Statements, etc. 7 pamphlets. 8vo. In the Danish language. Also, several Danish newspapers, with articles on Horticulture, by Carl Haussen; the whole presented by him.

Montreal Horticultural Society and Fruit Growers' Association of the Province of Quebec. Seventh Report, for the year 1881. 8vo. pamphlet. Map. Montreal. 6 copies. List of Premiums for the Exhibition to be held in Montreal, in September, 1882. 8vo. pamphlet. Montreal: 1881. Henry S. Evans, Secretary and Treasurer.

Worcester County Horticultural Society. Transactions for the year 1881, comprising Essays and Remarks at stated weekly meetings; also, the Annual Reports of the Librarian and Secretary. 8vo. pamphlet. Worcester: 1882. Also, Schedule of Premiums for the year 1882. 8vo. pamphlet. Worcester: 1882. Edward Winslow Lincoln, Secretary.

Rhode Island Horticultural Society. Rules and Premium List for the Autumn Exhibition, September 19–21, 1882. 8vo. pamphlet. The Society.

Western New York Horticultural Society. Proceedings at the Twenty-seventh Annual Meeting, held at Rochester, January 25, 26, and 27, 1882. 8vo. pamphlet. Rochester: 1882. The Society.

New Jersey Horticultural Society. Proceedings at the Seventh Annual Meeting, held at Vineland, January 11 and 12, 1882. 8vo. pamphlet. Newark: 1882. E. Williams, Secretary. 2 copies.

Pennsylvania Horticultural Society. Programme for the year 1882. Small 8vo. pamphlet. Philadelphia: 1882. A. W. Harrison, Secretary.

Pennsylvania Fruit Growers' Society. Report for 1881. 8vo. pamphlet. 5 plates. Harrisburg: 1881. E. B. Engle, Secretary.

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ductions, and Agricultural Capabilities. 17 pamphlets. 8vo. Washington: 1882. The Commissioner.

American Agricultural Association. Agricultural Review and Journal, January, 1882, Supplement, and August. 2 pamphlets. 8vo. New York: 1882. Joseph H. Reall, Secretary.

Maine Board of Agriculture. Twenty-fifth Annual Report of the Secretary, for the year 1881. 8vo. Augusta: 1882. Z. A. Gilbert, Secretary.

Maine State Agricultural Society, Maine State Pomological Society, and Androscoggin County Agricultural Society. Premium List of the Consolidated Exhibitions, Lewiston, September 26–29, 1882. 8vo. pamphlet. Augusta: 1882. Granville Fernald, Cor. Sec. Pom. Soc.

New Hampshire Board of Agriculture. First, Second, Third, Seventh, Eighth, Ninth, and Tenth Annual Reports; completing the set. 2 pamphlets and 5 volumes. 8vo. 1871–1881. William H. Hills.

Sanborn, J. W., Superintendent State Agricultural College Farm, Hanover, N. H. Farm Experiments. Fourth Series. 8vo. pamphlet. The Author.

Massachusetts Board of Agriculture. Twenty-ninth Annual Report of the Secretary, etc., for the year 1881. 8vo. Boston: 1882. John E. Russell, Secretary.

Essex Agricultural Society. Transactions for 1881, with the Fifty-ninth Annual Address, by Dr. James R. Nichols. 8vo. pamphlet. Salem: 1881. Charles P. Preston, Secretary.

Appleton, Francis H. Address before the Essex Agricultural Society at their Sixty-second Cattle Show and Fair. 8vo. pamphlet. Salem: 1882. The Author.

Connecticut Board of Agriculture. Fifteenth Annual Report of the Secretary, 1881–82. 8vo. Hartford: 1882. T. S. Gold, Secretary. 2 copies.

New Jersey State Board of Agriculture. Ninth Annual Report. 8vo. pamphlet. Orange, N. J., 1882. P. T. Quinn, Secretary.

New Jersey State Agricultural Society. List of Premiums at the Twenty-fourth Annual Fair, September 18, 1882. 8vo. pamphlet. Newark: 1882.

Hampton Normal and Agricultural Institute. Report for the year ending June 30, 1881. 8vo. pamphlet. Richmond: 1881. Also Treasurer's Report. 8vo. pamphlet. Hampton: 1881.

Georgia Department of Agriculture. Reports for 1881 and 1882. Supplemental Report for 1881. 8vo. pamphlets. Atlanta: 1882. J. T. Henderson, Commissioner.

Fern Creek [Kentucky], Farmers' and Fruit Growers' Association. Premium List of the Fourth Annual Fair. 8vo. pamphlet. Louisville: 1881. J. Decker, President.

Randolph County Agricultural, Horticultural, and Mechanical Association. Premium List of the Eleventh Annual Fair, Winchester, Indiana, September 12–15, 1882. 8vo. pamphlet. D. E. Hoffman, Secretary.

The Illustrated Journal of Agriculture, published by the Department of

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Part 1. 2 pamphlets, 8vo. Memoirs, Vol. 3, No. 4. 4to. pamphlet. Boston: 1882. The Society.

Middlesex Institute. Annual Reports, 1881–1882. 8vo. pamphlet. Malden; 1882. The Institute.

St. Louis Academy of Science. Transactions, Vol. 3, No. 4; Vol. 4, No. 2. 2 pamphlets. 8vo. St. Louis: 1878, 1882. The Academy.

Acta Horti Petropolitani, Vols. 1–5, each in two parts, and Supplement to Vol. 3. 11 pamphlets. 8vo. St. Petersburg: 1871–1876. Charles S. Sargent.

Leopoldina. Amtliches Organ der Kaiserlichen Leopoldino-Carolinischen Deutschen Akademie de Naturforscher. Siebenzehntes Heft, Jahrgang, 1881. 4to. pamphlet. Halle: 1881. Dr. C. H. Knoblauch, President.

La Nature. Revue des Sciences et de leurs applications aux Arts et a l'Industrie. 17 June, 1882. Journal Hebdomedaire Illustré. Rédacteur en chef, Gaston Tissandier. Square 8vo. Wood-cuts. Paris. Ch. Joly.

La Science pour Tous. 15 Juillet, 1882. Revue Hebdomedaire Illustré. Rédacteur en chef, Paul Laurencier. 4to. Paris. Ch. Joly.

Smithsonian Institution. Annual Reports, 1863–1870, 1878–1880. 11 vols. 8vo. Washington: 1864–1882. The Smithsonian Institution.

Powell, J. W., Director. First Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution. 1879–1880. Royal 8vo. Many colored and other plates, and wood-cuts. Washington: 1881. The Smithsonian Institution.

Check List of Publications of the Smithsonian Institution, December, 1881. 8vo. pamphlet. Washington: 1881. The Smithsonian Institution.

List of Periodicals received at the Smithsonian Institution in 1880. From the Annual Report for 1880. 8vo. pamphlet. Washington: 1881. The Smithsonian Institution.

Gray, Dr. Asa. Memorial of Thomas Potts James. 8vo. pamphlet. Mrs. Isabella James.

Ellis, George E., D. D. Memoir of Jacob Bigelow, M. D., LL. D. Reprinted from the Proceedings of the Massachusetts Historical Society. Royal 8vo. Portrait. Cambridge: 1880. The Family of Dr. Bigelow.

Mount Auburn Cemetery. Annual Reports of the Trustees for 1878 and 1881. 2 pamphlets. 8vo. Boston: 1879, 1882. J. Harris Reed, Secretary.

United States Bureau of Education. Report of the Commissioner for the year 1880. 8vo. Washington: 1882. Circulars of Information, Nos. 1–6, 1881, and No. 1, 1882. 7 pamphlets. 8vo. Washington: 1881, 1882. Also, three other pamphlets and one broadside. Hon. John Eaton, Commissioner.

Massachusetts Institute of Technology. Seventeenth and Eighteenth Annual Catalogues of Officers and Students, etc., 1881–1882, 1882–1883. 8vo. pamphlets. Boston: 1881, 1882. The Institute.

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Periodicals Purchased.

English. — Gardeners' Chronicle.
Gardeners' Magazine.
Journal of Horticulture and Cottage Gardener.
The Garden.
Gardening Illustrated.
Curtis's Botanical Magazine.
Florist and Pomologist.
Journal of Botany.
Country Gentleman's Magazine.
Journal of Forestry.
French. — Revue Horticole.
Revue des Eaux et Forêts.
Belgian. — Illustration Horticole.
Flore des Serres.
Belgique Horticole.
Revue de l' Horticulture, Belge et Étrangère.
German. — Botanische Zeitung.
Gartenflora.
American. — Country Gentleman.
American Journal of Forestry.
American Naturalist.

Periodicals Presented.

Gardener's Monthly.
Canadian Horticulturist.
Ladies' Floral Cabinet.
Semi-Tropic California.
American Garden.
Vick's Illustrated Monthly Magazine.
American Florist and Farmer.
Seed Time and Harvest.
Bulletin of the Torrey Botanical Club.
Botanical Gazette.
The Scientific Roll.
Maine Farmer.
Home and Farm.
New England Farmer.
Massachusetts Ploughman.
American Cultivator.
New England Homestead.
American Agriculturist.
Rural New Yorker.
American Rural Home.
Maryland Farmer.

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Florida Dispatch.
Prairie Farmer.
The Industrialist.
Pacific Rural Press.
Boston Daily Advertiser.
Boston Morning Journal.
Boston Post.
Boston Daily Globe.
Boston Evening Transcript.
Daily Evening Traveller.
The Cottage Hearth.

Books, Etc., Wanted.

☞ *Persons having any of the books in the following list to dispose of will oblige by addressing the "Librarian of the Massachusetts Horticultural Society, Horticultural Hall, Boston."*

Bolton's Filices Britannicæ, Part 2. 4to. Huddersfield, 1790.
Sowerby's English Botany, Supplement to the 1st edition; Vol. 5, including all the plates beyond No. 2,960.
Curtis's Beauties of the Rose,—all but the volume for 1850. 4to. London and Bristol.
Nestel's Rosengarten, 1870 and onward. Stuttgart.
Murray, Andrew, On the Synonymy of various Conifers,—all but Part 1.
Endlicher's Genera Plantarum,—all the Supplements but the first.
Lindley's Folia Orchidacea, Part 9.
Floral World, 1866.
Revue Horticole, founded 1829, volumes prior to 1847.
U. S. Entomological Commission, Bulletins 3, 4, and 5. Also First Report on the Rocky Mountain Locust.
Illinois Entomological Reports,—all beyond the 4th.
United States Patent Office, Agricultural Reports, 1839, 1842, 1843.
U. S. Department of Agriculture, Special Reports 14 and 15.
Virginia Commissioner of Agriculture, First Annual Report.
Royal (London) Horticultural Society's Journal, between Vol. 9, 1854, and Vol. 6 [New Series?], 1880.
Annales de la Société d'Horticulture de Paris, January, 1832.
Journal de la Société Centrale d'Horticulture de France, June 1868.
Bulletin de la Société d'Horticulture du Département de la Seine Inferièure (formerly Société de Rouen), Tome 5, Cahier 4; Tome 7, Cahier 1; Tome 14, Cahier 2. Also Tome 2, Cahier 8; Tome 3, Cahiers 2 and 6; being Cahiers 1, 2, and 3 of Tome 1 of Pomologie (pp. 1–52, 53–76, and 77–108). Also Tome 1, Cahier 6, Pomologie (pp. 159–175); Tome 2, Cahier 3, Pomologie.
Reports of the Iowa State Horticultural Society,—all previous to 1869; also 1870, 1871, 1874.

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Iowa Forestry Annual,—all but No. 5, 1879.

Minnesota State Forestry Association, Forest Tree Planters' Manual,—all but 1879 and the second edition of the same, 1880.

Nebraska Horticultural Society, Transactions, other than 1871, 1872, and 1877.

American Agricultural Association, Review and Journal, January, 1882, and May, 1882.

New England Farmer. 4to. Vol. 8; No. 49, June 25, 1830; Vol. 24, Nos. 3, 17, 21–24, 27, 29, 32, 35, 36, 38–48, 50, 51 (1845–1846). Also Title-page and Index.

New England Farmer. 8vo. 1864. Part of Vol. 16.

American Agriculturist, Vol. 1, No. 2; Vol. 2, No. 1; and Vols. 9, 11, 15, 22, and 23.

Country Gentleman, Vol. 2, Nos. 27, 28, 29, and 30. Also Title-page and Index.

The California Horticulturist, Vols. 7 and 8, and the Jan., Feb., March, April, and July numbers of Vol. 9.

Semi-Tropic California, January 1881 and March 1882.

The Semi-Tropical (Jacksonville, Fla.), Vol. 1, 1875, and the March number of Vol. 3.

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Report of the Secretary and Librarian,

FOR THE YEAR 1882.

I wish it were in my power to present a report in which I could relate the occurrence of events that should largely increase the power of the Society to promote the object for which it was established,—the improvement of the science and art of horticulture. Instead of this, I must be content with the more humble task of reporting the diligent performance of work, largely of a routine nature, and, therefore, differing but little from year to year; and, at this late stage of the meeting, it can hardly be desired that I should occupy your time in particularizing this work, and, therefore, I will only say, that though the number of meetings for discussion the last season was materially increased, and, consequently, the labor of making notes of the discussions and preparing them for the press, the TRANSACTIONS have been published earlier than last year, and it is hoped that a still further gain may be made in the coming year.

Special attention has been given during the last year to the exchange of our TRANSACTIONS with other societies, and in this way many valuable additions have been made to the library, the most important of which consists of twenty-three volumes of the "Bulletin de la Société Nationale et Centrale d'Horticulture de France," making our set of the publications of that Society nearly complete, from its foundation in 1826 to 1870.

As Librarian, I would say that the work of perfecting the incomplete sets of periodicals, and other works in the library, has continued to engage my attention. Much inquiry and correspondence is necessary in this work, and many abortive efforts are often made, and many disappointments experienced, before the right clue is found, but by persevering effort, several valuable sets of books have had their deficiencies supplied, the most important of which is, perhaps, the Gardener's Chronicle, of which we now possess a complete set from its foundation in 1841. The volume

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or number required to complete a set may not be of great value in itself, yet, as making the difference between the perfection and imperfection of an important work, it may be invaluable. A list of some of the desiderata in this direction, will be found appended to the report of the Library Committee, and the attention of any who may have any of the publications mentioned to dispose of, is solicited to it.

The completion of any work renders it desirable that it should be bound for preservation and use. The appropriation heretofore made, has been but little more than sufficient for the subscription and binding of the periodicals taken, and, consequently, many unbound volumes have accumulated. The number of these has been increased during the past year by the completion of imperfect sets, and I trust that the Society will approve the recommendation of the Executive Committee, to appropriate an increased sum for this purpose, in order that the books may be made available for use.

The new book-case, placed in the library room the present year, has not only afforded room for the storage of books, thereby relieving, in some degree, the crowded condition of the other book-cases, but opportunity to classify the books to an extent not possible before. In it have been placed, besides some of the most valuable works on general and local botany, all our books on Ferns, on Arboriculture, and on Pomology including Fruit Culture,—three of the most important subjects within the scope of the library. These books were previously scattered through the library, but any one desiring to study either of these subjects, can now ascertain, at a glance, what the library contains upon it. While many works still remain to be acquired on these subjects, it is yet a satisfaction to know that the Society already possesses so many valuable books upon all of them. It is intended to continue the work of classifying the books and bringing together those upon the same subject, as time shall permit.

The important work commenced during the year of preparing a card catalogue of the plates of plants, flowers, and fruits, has occupied a portion of my time, though much less than would have been demanded but for the intelligence, care, and accuracy brought to the work by the person employed by the Library Committee. The importance of this work may not be generally understood, but those who have occasion to look for any plate of a plant or fruit will appreciate it, and those who have not would see its import-

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ance if they should look for any particular plate among the more than two hundred thousand in the library, without the assistance of such a catalogue as is proposed. Even supposing the hundreds, if not thousands, of volumes containing these plates to be thoroughly and accurately indexed, which is not always the case, it is obvious that the labor of consulting all these indexes, would be too great to be often undertaken. The present Chairman of the Library Committee, when urging in his first report, the importance of this work, expressed the opinion that the usefulness of the library would be doubled if such a catalogue were in existence, and I do not think that this estimate of its value is too high.

ROBERT MANNING,
Secretary and Librarian.

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TREASURER'S REPORT,

FOR THE YEAR 1882.

RECEIPTS.

Cash on hand as per last report,	$2,635 62
Rent of Halls,	8,218 65
" " Stores,	10,174 98
From Telegraph Companies for damage to roof,	162 50
Admissions and Assessments,	810 00
Sale of History,	17 00
Sale of Duplicate Books,	2 50
" " " " Stickney Fund,	5 75
Mount Auburn Cemetery,	3,954 81
Annual Exhibitions,	579 50
Special Grape Prizes,	100 00
	$26,661 31

EXPENDITURES.

Labor,	$909 23	
Salaries,	2,191 69	
Incidentals,	203 09	
Interest,	3,860 96	
Taxes,	3,397 50	
Repairs on Building,	229 61	
Heating and Water, less paid by tenants,	649 07	
Lighting,	987 38	
Furniture and Fixtures,	374 09	
Prizes,	2,564 40	
Annual Exhibitions,	481 63	
Committee of Arrangements,	250 00	
Garden Committee,	14 85	
Committee on Publication and Discussion,	95 00	
Stationery, Postage, and Printing,	1,112 38	
Stickney Fund,	705 75	
Library,	202 50	
Card Catalogue of Plates,	99 80	
Cash on hand December 31, 1882,	8,332 38	
		26,661 31

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ASSETS.

Real Estate, Furniture, and Exhibition ware,		$256,585 56
Library last year,	$20,746 12	
Added this year,	900 00	
		21,646 12
Bonds, C., B. & Q. R. R., at par,		1,500 00
Stereotype Plates, and copies of History,		404 50
Cash on hand December 1, 1882,		8,332 38
		$288,468 56

LIABILITIES.

Mortgage debt, bearing interest at 5½ per cent., due September, 1883,	60,000 00	
Loan, without interest, payable to Harvard College in 1899,	12,000 00	
Note payable to Massachusetts National Bank,	12,000 00	
		84,000 00
Surplus,		$204,468 56

MEMBERS.

Number of Life Members by last report,		582	
Added during the year,		8	
		590	
Deceased,	7		
	7		
		583	
Annual Members,	275		
Added,	13		
	288		
Deceased, 4			
Discontinued, 10			
	14		
	274		
			857
Income from membership:			
8 Life Members,		$240	
13 Annual Members,		130	
220 Assessments,		440	
			$810 00

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The Finance Committee having audited the accounts of the undersigned, made and have subscribed to on a book kept for that purpose, the following report:

The Massachusetts Horticultural Society in account with GEO. W. FOWLE, *Treasurer.*

By balance in treasury, December 31, 1882, . .	$2,635 62
" Total income as per receipt book, . . .	24,025 69
	$26,661 31

Contra.

To cash paid out as per disbursement book, . .	$18,328 93
Balance to new account, ...	8,332 38
	$26,661 31

BOSTON, February 2, 1883. We have examined the above account, and find it correct, and the balance of cash on hand eighty-three hundred and thirty-two dollars and thirty-eight cents, as stated.

(Signed) H. H. HUNNEWELL, } *Finance*
FRANCIS B. HAYES, } *Committee.*

The income of the Society the past year has been increased by receipts from the Proprietors of Mount Auburn Cemetery, and from rental of the Halls, both in excess of the previous year. That from the Halls would have been still greater if former prices could have been obtained; but this could not be, owing to the increase of the number of halls in our city, creating much competition.

The Treasurer hopes that the contemplated improvements in the stores will so augment the receipts that the building shall be let only for such purposes as will, in all respects, promote the welfare of the Society.

GEO. W. FOWLE, *Treasurer.*

BOSTON, February 3, 1883.

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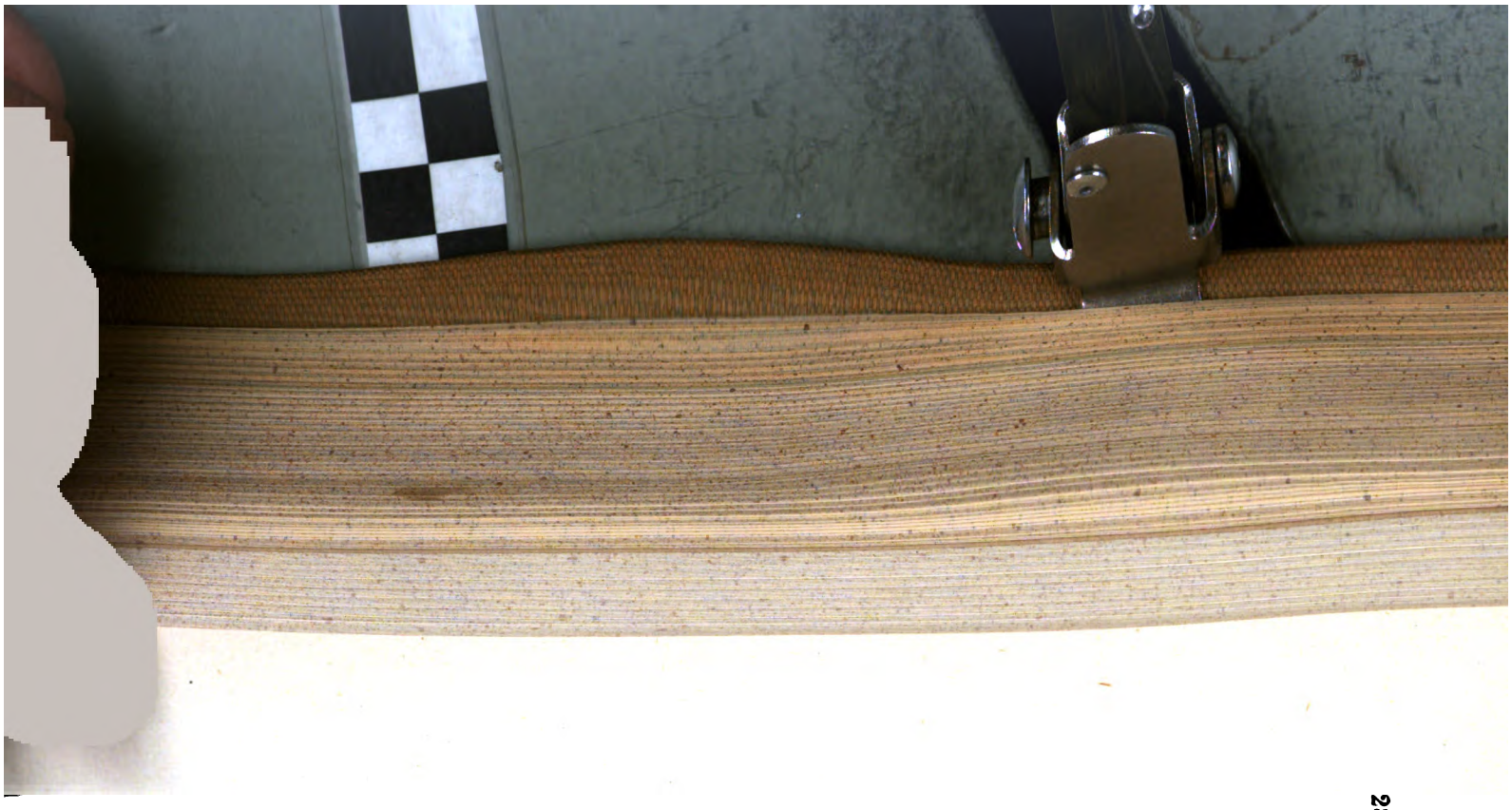

Dr. *Massachusetts Horticultural Society, in account with the Proprietors of the Cemetery of Mt. Auburn.* **Cr.**

For Sales and Improvements within the Cemetery for the year ending December 31st, 1882.

Cost of filling up and improving land at Mt. Auburn, for the year ending December 31, 1882; the Massachusetts Horticultural Society being charged with their proportion of the same:		By Sales in January,	$15 00
Pearl Avenue to Eagle Avenue,	$2,090 13	" " " February,	15 00
Swan Avenue to Magnolia Avenue,	78 75	" " " March,	2,550 98
Ivy Park,	534 50	" " " April,	1,285 00
Chant Lot,	365 25	" " " May,	2,631 50
	$3,068 63	" " " June,	1,676 16
		" " " July,	590 00
		" " " August,	1,175 00
		" " " September,	3,027 00
		" " " October,	2,792 75
		" " " November.	3,091 75
		" " " December,	348 75
		Net amount receipts from Receiving Tomb,	490 00
			$20,297 89
		Less grave repurchased,	10 00
			$20,287 89
		Deduct for Annual Expenses,	1,400 00
One-quarter of $3,068.63 is	$767 16	Mass. Horticultural Society one-fourth part of	$18,887 89
Balance due Massachusetts Horticultural Society,	3,954 81		
	$4,721 97		$4,721 97

H. B. MACKINTOSH, *Treasurer.*

E. & O. E.

December 26, 1882.

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MASSACHUSETTS HORTICULTURAL SOCIETY,

To the PROPRIETORS OF THE CEMETERY OF MOUNT AUBURN, *Dr.*

For one-fourth part of the following expenditures for grading new lands for sale during 1882:

Pearl Avenue to Eagle Avenue (Stone Farm).

476¾ days, men,	. . . . .	$953 50	
324¾ " man and horse,	. . . . .	1,136 63	
			$2,090 13

Swan Avenue to Magnolia Avenue.

22½ days, man and horse,	. . . . .	78 75

Ivy Path.

267¼ days, men,	. . . . .	534 50

Chant Lot (near Lantana Path).

27¾ days, men,	. . . . .	$55 50	
88½ " man and horse,	. . . . .	309 75	
			365 25
			$3,068 63

One-fourth part of $3,068.63 is $767 16

J. W. LOVERING, *Supt.*

MOUNT AUBURN, Dec. 30, 1882.

I certify the foregoing to be a true copy of accounts of improvements for the year 1882, rendered by the Superintendent.

H. B. MACKINTOSH, *Treasurer.*

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Massachusetts Horticultural Society.

OFFICERS AND STANDING COMMITTEES FOR 1883.

President.

FRANCIS B. HAYES, of Boston.

Vice-Presidents.

JOHN B. MOORE, of Concord.
JOHN CUMMINGS, of Woburn.
BENJAMIN G. SMITH, of Cambridge
CHARLES H. B. BRECK, of Boston.

Treasurer and Superintendent of the Building.

GEORGE W. FOWLE, of Boston.

Secretary and Librarian.

ROBERT MANNING, of Salem.*

Recording Secretary.

ROBERT MANNING, of Salem.

Professor of Botany and Vegetable Physiology.

JOHN ROBINSON, of Salem.

Professor of Entomology.

SAMUEL H. SCUDDER, of Cambridge.

Standing Committees.

Executive.

THE PRESIDENT, FRANCIS B. HAYES, CHAIRMAN.
THE EX-PRESIDENTS, MARSHALL P. WILDER, CHARLES M. HOVEY, JAMES F. C. HYDE, WILLIAM C. STRONG, FRANCIS PARKMAN, WILLIAM GRAY, JR.; CHAIRMAN OF FINANCE COMMITTEE, H. H. HUNNEWELL; F. L. AMES, CHARLES H. B. BRECK, JOHN C. HOVEY, HENRY P. WALCOTT.

* Communications for the Secretary, on the business of the Society, should be addressed to him at Horticultural Hall, Boston.

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Finance.

H. HOLLIS HUNNEWELL, CHAIRMAN.

FRANCIS B. HAYES. F. L. AMES.

Publication and Discussion.

BENJAMIN G. SMITH, CHAIRMAN.

JOHN B. MOORE. WILLIAM H. HUNT.

Establishing Prizes.

CHAIRMAN OF COMMITTEE ON FRUITS, CHAIRMAN.

CHAIRMEN OF COMMITTEES ON FLOWERS, VEGETABLES, AND GARDENS, *EX OFFICIIS;* C. M. ATKINSON, P. BROWN HOVEY, JOHN B. MOORE.

Library.

WILLIAM E. ENDICOTT, CHAIRMAN.

THE PROFESSOR OF BOTANY AND VEGETABLE PHYSIOLOGY AND THE PROFESSOR OF ENTOMOLOGY, *EX OFFICIIS;*

HENRY P. WALCOTT. FRANCIS H. APPLETON.

J. D. W. FRENCH. E. P. RICHARDSON.

Gardens.

JOHN G. BARKER, CHAIRMAN.

CHAIRMEN OF COMMITTEES ON FRUITS, FLOWERS, AND VEGETABLES, *EX OFFICIIS;* GEORGE S. HARWOOD, HENRY ROSS, CHARLES W. ROSS.

Fruit.

E. W. WOOD, CHAIRMAN.

P. BROWN HOVEY.	CHARLES F. CURTIS.	O. B. HADWEN.
BENJAMIN G. SMITH.	J. W. MANNING.	WARREN FENNO.

Plants and Flowers.

WILLIAM H. SPOONER, CHAIRMAN.

PATRICK NORTON.	JAMES CARTWRIGHT.	J. H. WOODFORD.
F. L. HARRIS.	DAVID ALLAN.	EDWARD L. BEARD.

Vegetables.

CHARLES N. BRACKETT, CHAIRMAN.

JOSIAH CROSBY.	GEORGE W. PIERCE.	WARREN HEUSTIS.
CHARLES E. GRANT.	SAMUEL HARTWELL.	CEPHAS H. BRACKETT.

Committee of Arrangements.

CHARLES H. B. BRECK, CHAIRMAN.

CHAIRMEN OF COMMITTEES ON FRUITS, FLOWERS, VEGETABLES, AND GARDENS, *EX OFFICIIS;*

JOHN C. HOVEY.	CHARLES H. HOVEY.	WILLIAM H. HALLIDAY.
C. M. ATKINSON.	JAMES COMLEY.	CHARLES F. CURTIS.
JOSEPH H. WOODFORD.		WARREN HEUSTIS.

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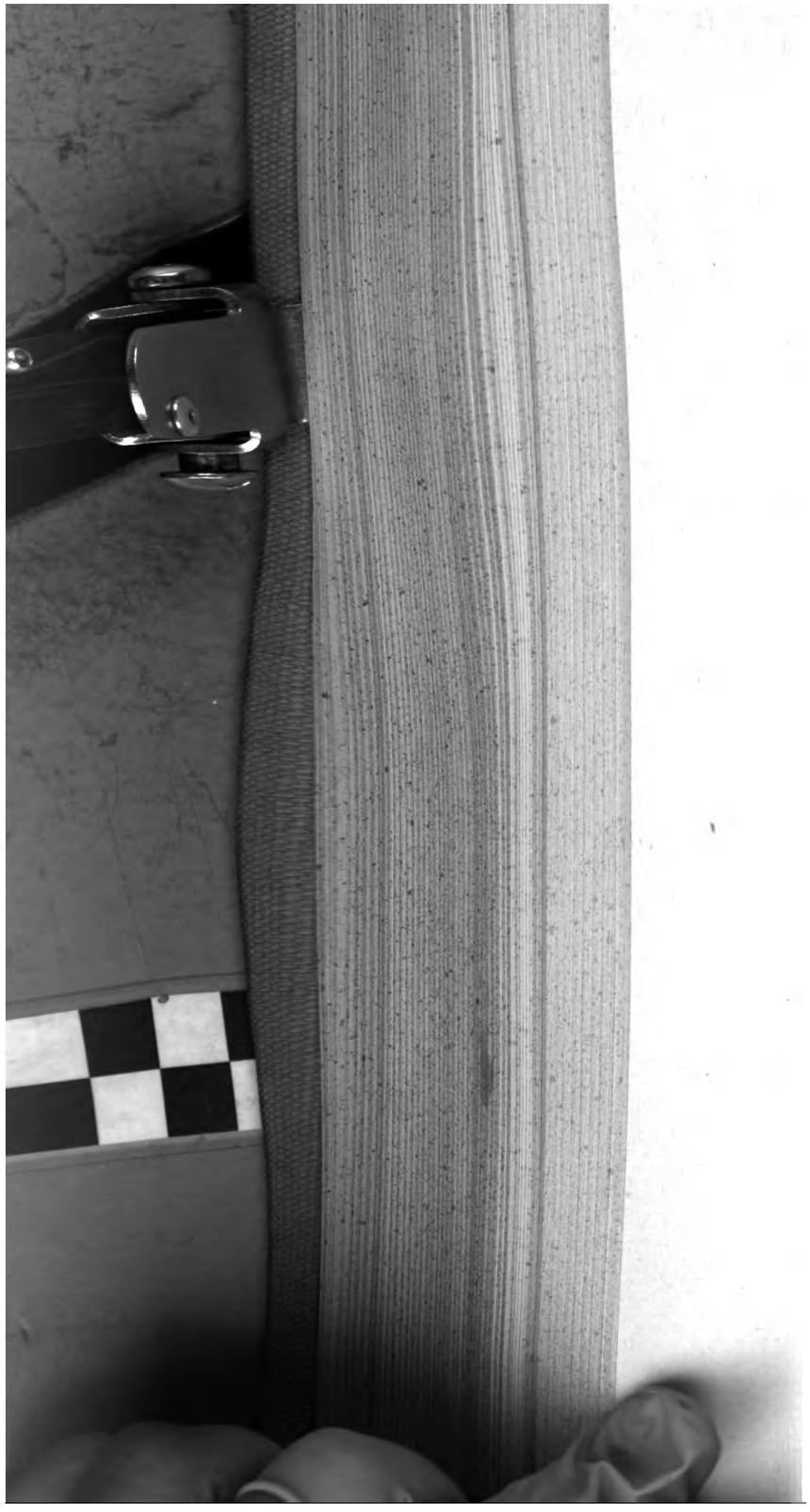

MEMBERS FOR LIFE.

Change of residence, or any inaccuracies, should be promptly reported to the Secretary.

Adams, George E.,	Medford.
Albro, Charles,	Taunton.
Alger, R. F.,	Becket.
Allan, David,	Belmont.
Ames, F. L.,	North Easton.
Ames, Frank M.,	Canton.
Ames, George,	Boston,
Ames, P. Adams,	"
Amory, Charles,	"
Amory, Frederick,	Brookline.
Amory, James S.	Boston.
Anderson, Alexander,	Hingham.
Andrews, Charles L.,	Swampscott.
Andrews, Frank W.,	Boston.
Andros, Milton,	Brookline.
Appleton, Edward,	Reading.
Appleton, Francis H.,	Peabody.
Appleton, Wm. S.,	Boston.
Atkins, Elisha,	Belmont.
Avery, Edward,	Boston.
Ayer, Adams,	"
Ayling, Isaac,	"
Bacon, George,	Brookline.
Bailey, Edwin C.,	Concord, N. H.
Baker, William E.,	Boston.
Bancroft, John C.,	Milton.
Banfield, Francis L.,	Boston.
Barnard, Rev. C. F.,	"
Barnard, James M.,	"
Barnard, Robert M.,	Everett.
Barnes, Walter S.,	Somerville.
Barnes, William H.,	Boston.
Barney, Levi C.,	"
Barratt, James,	Cambridgeport.
Barrett, Edwin S.,	Concord.
Barrows, Thomas,	Dedham.
Bartlett, Edmund,	Newburyport.
Bates, Amos,	Hingham.
Bates, Caleb,	Kingston.
Bayley, John P.,	Boston.
Beal, Alexander,	Dorchester.
Beckford, D. R., Jr.,	Dedham.
Bell, Joseph H.,	Quincy.
Bemis, Emery,	Grantville.
Berry, James,	Boston.
Bickford, Weare D.,	Allston.
Birchard, Charles,	Framingham.
Black, James W.,	Boston.
Blagg, Samuel,	Newbern, N. C.
Blanchard, J. W.,	Boston.
Blaney, Henry,	Brookline.
Blinn, Richard D.,	Chicago, Ill.
Bliss, William,	Springfield.
Bocher, Ferdinand,	Boston.
Bockus, Charles E.,	Dorchester.
Bond, George W.,	Boston.
Borland, John N.,	New London, Ct.
Botume, John,	Stoneham.
Bouvé, Thomas T.,	Boston.
Bowditch, Azell C.,	Somerville.
Bowditch, J. Ingersoll,	Boston.
Bowditch, Wm. E.,	"
Bowker, William H.,	"
Brackett, Cephas H.,	Brighton.
Brackett, Charles N.,	Newton.
Bradish, Levi J.,	Boston.
Bragg, Samuel A. B.,	Mattapan.
Breed, Henry A.,	Lynn.
Bresee, Albert,	Hortonville, Vt.
Brewer, John Reed,	Boston.
Brewer, Otis,	"
Brigham, William T.,	"
Brimmer, Martin,	"
Brintnall, Benjamin,	"
Brooks, Francis,	Medford.
Brown, Charles E.,	Yarmouth, N. S.
Brown, Edward J.,	Brookline.

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Brown, George B.,	"	Clement, Asa,	Dracut.
Brown, Jacob,	Woburn.	Cleveland, Ira,	Dedham.
Brownell, E. S.,	Essex Junc., Vt.	Cobb, Albert A.,	Brookline.
Bruce, Nathaniel F.,	Stoneham.	Coburn, Isaac E.,	Everett.
Bullard, William S.	Boston.	Codman, James M.,	Brookline.
Burnett, Joseph,	Southborough.	Codman, Ogden,	Lincoln.
Burnham, T. O. H. P.,	Boston.	Coffin, G. Winthrop,	West Roxbury.
Burr, Fearing,	Hingham.	Coffin, William E.,	Boston.
Burr, Matthew H.,	"	Converse, E. S.,	Malden.
Buswell, Edwin W.,	New York.	Converse, Parker L.,	Woburn.
Buswell, Frank E.,	" "	Coolidge, Joshua,	Watertown.
Butler, Aaron,	Wakefield.	Copeland, Franklin,	West Dedham.
Butterfield, Wm. P.,	Arlington.	Cox, George P.,	Malden.
		Coy, Samuel I.,	Boston.
Cadness, John,	Flushing, N. Y.	Craft, George,	Brookline.
Cains, William,	South Boston.	Crocker, George O.,	New Bedford.
Calder, Augustus P.,	Boston.	Crocker, Uriel,	Boston.
Capen, John,	"	Crosby, Josiah,	Arlington.
Carlton, Samuel A.,	Somerville.	Crowell, Philander,	Chelsea.
Carruth, Charles,	Boston.	Crowell, Randall H.,	"
Carruth, Nathan,	Dorchester.	Cummings, John,	Woburn.
Carter, Miss Sabra,	Wilmington.	Curtis, Charles F.,	Jamaica Plain.
Chamberlain, C. W.,	Arlington.	Curtis, George S.,	" "
Chapin, N. G.,	Brookline.	Cushing, Robert M.,	Boston.
Chapman, Edward,	Arlington.		
Chase, A. J.,	Lynn.	Daggett, Henry C.,	Boston.
Chase, Daniel E.,	Somerville.	Damon, Samuel G.,	Arlington.
Chase, Hezekiah S.,	Boston.	Dana, Charles B.,	Brookline.
Chase, William M.,	Worcester.	Darling, Charles K.,	Boston.
heney, Benjamin P.,	Boston.	Davenport, Edward,	Dorchester.
ild, Francis J.,	Cambridge.	Davenport, Geo. E.,	Boston.
ild, William C.,	Medford.	Davenport, Henry,	"
lds, Francis,	Charlestown.	Davis, Curtis,	Cambridge.
lds, N. R.,	Dorchester.	Davis, Hervey,	Cambridgeport.
in, Henry,	Brighton.	Dawson, Jackson,	Jamaica Plain.
in, William,	Newton.	Deblois, Stephen G.,	Boston.
, Edward B.,	Dorchester.	Denny, Clarence H.,	"
, E. W.,	Walpole.	Denny, R. S.,	Dorchester.
, James H.,	Dorchester.	Denton, Eben,	Braintree.
Lemuel,	"	Dewson, Francis A.,	Boston.
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Greig, George,	Newton.
Grinnell, Joseph,	New Bedford.
Groom, Thomas,	Dorchester.
Grundel Hermann,	"
Guild, J. Hanson,	Brookline.
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Hardy, F. D., Jr.,	Cambridgeport.
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Hubbard, J. C.,	Boston.	Lawrence, John,	Boston.
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ːkson, Abraham,	Boston.	Lovett, George L.,	Boston.
vrin, William S.,	Revere.	Low, Ariel,	"
ries, John, Jr.,	Boston.	Lowder, John,	Watertown.
ts, Charles W.,	"	Lowell, Augustus,	Boston.
e, Mrs. E. S.,	Medford.	Luke, Elijah H.,	Cambridgeport.
		Lumb, William,	Boston.
ı, Edward,	Medford.	Lunt, Charles H.,	Jamaica Plain.
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ll, J. R.,	Woburn.		
ːk, Mrs. H. P.,	Allston.	Mahoney, John,	Boston.
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r, George G.,	"	Mann, Jonathan,	"
hn,	Charlestown.	Manning, Jacob W.,	Reading.

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Martin, John S.,	Boston.
Matthews, Nathan,	"
McCarty, Timothy,	Providence, R.I.
McClure, John,	Revere.
Merriam, Herbert,	Weston.
Merriam, M. H.,	Lexington.
Merrifield, W. T.,	Worcester.
Mills, Charles H.,	Boston,
Milmore, Martin,	"
Minton, James,	Dorchester.
Mixter, Charles,	Boston.
Moore, John B.,	Concord.
Moore, John H.,	"
Morrill, Joseph, Jr.,	Boston.
Morse, Samuel F.,	"
Morse, Sidney B.,	"
Morse, William A.,	"
Motley, Thomas,	West Roxbury.
Mudge, George A.,	Portsm'th, N. H.
Mudge, George W.,	Lynn.
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Nourse, Benjamin F.,	Cambridgeport.
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Oxnard, George D.,	"
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Paine, Robert T.,	"
Palmer, John P.,	"
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Parker, Augustus,	Boston.
Parker, Harvey D.,	Boston.
Parkman, Francis,	Jamaica Plain.
Partridge, Henry,	Dunkirk, N. Y.
Partridge, Horace,	Somerville.
Paul, Alfred W.,	Dighton
Peabody, John E.,	Salem.
Pearce, John,	West Roxbury.
Peck, O. H.,	Franklin.
Peck, W. G.,	Arlington.
Peirce, Silas,	Boston.
Penniman, A. P.,	Waltham.
Perkins, Augustus T.,	Boston.
Perkins, Edward N.,	Brookline.
Perkins, William P.,	"
Perry, George W.,	Malden.
Philbrick, William D.,	Newton Centre.
Phillips, John C.,	Boston.
Pierce, Dean,	Brookline.
Pierce, George W.,	Everett.
Pierce, Henry L.,	Dorchester.
Pierce, Samuel B.,	"
Poole, Benjamin C.,	Chelsea.
Poor, John R.,	Somerville.
Potter, Joseph S.,	Arlington.
Prang, Louis,	Boston.
Pratt, Lucius G.,	West Newton.
Pratt, Robert M.,	Boston.
Pratt, William,	Winchester.
Pray, Mark W.,	Malden.
Prescott, C. H.,	Cornwallis, N.S.
Prescott, Eben C.,	Boston.
Prescott, W. G.,	"
Prescott, William G.,	Quincy.
Preston, George H.,	Boston.
Preston, John,	Dorchester.
Pringle, Cyrus G.,	Charlotte, Vt.
Proctor, Thomas P.,	West Roxbury.
Prouty, Gardner,	Littleton.
Putnam, Joshua H.,	Brookline.
Ramsay, A. H.,	Cambridge.
Rand, Edward S.,	Boston.
Rand, Miss E. L.,	Newton Highl'ds.
Rand, Oliver J.,	Cambridgeport.
Rawson, W. W.,	Arlington.
Ray, James F.,	Franklin.
Ray, James P.,	"

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	Smith, James H.,	Needham.
	Smith, W. B.,	Boston.
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idge.	Snow, Miss Salome H.,	Brunswick, Me.
	Southmayd, John K.,	Boston.
n.	Sparhawk, Edw'd C.,	Brighton.
	Spaulding, Edward,	Jamaica Plain.
gton.	Spaulding, M. D.,	Boston.
on.	Speare, Alden,	Newton Centre.
hester.	Springall, George,	Malden.
m.	Springer, John,	Sterling.
ton.	Stetson, Nahum,	Bridgewater.
vton.	Stickney, Rufus B.,	Somerville.
ston.	Stimpson, George,	New York.
"	Stimpson, H. H.,	Cambridge.
uth Boston.	Stone, Amos,	Everett.
oburn.	Stone, George F.,	Newton.
eicester.	Stone, Phineas J.,	Charlestown.
rlington.	Story, E. Augustus,	Brighton.
	Strong, William C.,	Newton Highl'ds.
New York.	Surgis, John H.,	Boston.
Cambridgeport.	Sturgis, Russell Jr.,	"
Oxford, Md.	Sturtevant, E. Lewis,	Geneva, N. Y.
Brookline.	Sumner, Edward,	Dedham.
"	Surette, Louis A.,	Concord.
"	Swain, Charles D.,	Roxbury.
, Charlestown.		
Newton.	Taft, John B.,	Boston.
Brookline.	Tappan, Charles,	"
y, Boston.	Taylor, Horace B.,	"
East Boston.	Thacher, Alfred C.,	Dorchester.
Jamaica Plain.	Thayer, Henry,	N. Cambridge.
Milford, N. H.	Thayer, Nathaniel,	Boston.
Cambridge.	Thurlow, Thomas C.,	Newburyport.
, Boston.	Tilton, Stephen W.,	Boston.
Brookline.	Todd, John,	Hingham.
., Milton.	Tolman, Benjamin,	Concord.
F., Boston.	Tolman, Miss H. S.,	Boston.
Lynn.	Torrey, Everett,	Charlestown.
, Boston.	Turner, John M.,	Dorchester.
V., "	Turner, Roswell W.,	Boston.
n G., Cambridge.	Turner, Royal W.,	Randolph.
V., Grantville.		
H., Jamaica Plain.	Underwood, Guy C.,	Boston.
ey, Cambridge.	Upham, Henry,	Brookline.

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Vass, William J.,	Boston.	White, Benjamin C.,	Boston.
Vose, Benjamin C.,	Hyde Park.	White, Edward A.,	"
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Wakefield, E. H.,	Chelsea	Whiting, Nathaniel,	Brookline.
Walcott, Edward,	Pawtucket.	Whitmore, C. O.,	Boston.
Walcott, Henry P.,	Cambridge.	Whittle, George W.,	Somerville.
Wales, George O.,	Braintree.	Whytal, Thomas G.,	New York.
Walker, Edw. C. R.,	Dedham.	Wilbur, G. B.,	Watertown.
Walker, Samuel A.,	"	Wilcutt, Levi L.,	West Roxbury.
Walker, T. W.,	Waltham.	Wilder, Edw. Baker,	Dorchester.
Walley, Mrs. W. P.,	Boston.	Wilder, Henry A.,	Boston.
Ward, John,	Newton.	Wilder, Marshall P.,	Dorchester.
Wardwell, W. H.,	Newton Centre.	Willard, E. W.,	Newport, R. I.
Ware, Benjamin P.,	Beach Bluff.	Williams, Aaron D.,	Boston.
Warren, George W.,	Boston.	Williams, Benj. B,	"
Washburn, Andrew,	Hyde Park.	Williams, Philander,	Taunton.
Wason, Elbridge,	Brookline.	Willis, George W.,	Chelsea.
Waters, Edwin F.,	Newton Centre.	Willis, J. C.,	Boston.
Watts, Isaac,	Newton.	Wilson, Henry W.,	South Boston.
Webber, Aaron D.,	Belmont.	Wilson, Wm. Power,	Boston.
Weld, Aaron D.,	Boston.	Winship, F. Lyman,	Brighton.
Weld, Dr. Moses W.,	West Roxbury.	Winship, Herman,	"
Weld, Richard H.,	Boston.	Woerd, Charles V.,	Waltham.
Weld, William G.,	"	Woerd, C. V., Jr.,	"
West, Mrs. Maria L.,	Brookline.	Wood, Luke H.,	Marlborough.
Weston, Leonard W.,	Lincoln.	Wood, R. W.,	Jamaica Plain.
Weston, Seth,	Revere.	Wood, William K.,	West Newton.
Wetherell, Leander,	Boston.	Woods, Henry,	Dorchester.
Wheelwright, A. C.,	"	Woodward, Royal,	Brookline.
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., Longwood.		Cartwright, James,	Wellesley.
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Framingham.		Clark, Joseph,	Manchester.
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orge, Brookline.		Dolbear, Mrs. Alice J.,	Somerville.
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na., Jr., Somerville.		Dupee, James A.,	Brookline.
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Frost, Stiles,	Boston.
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Gilbert, Samuel,	"
Gilbert, W. A.,	Neponset.
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Gray, William, Jr.,	"
Gray, William, 3d,	"
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Hersey, Edmund,	"
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Jones, Moses,	Brookline.
Jordan, Samuel,	Yarmouth.
Judkins, Rev. B.,	West Dedham.
Kelley, George B.,	Jamaica Plain.
Kelsey, Fred W.,	Waverly, N. Y.
Kendall, Jonas,	Framingham.
Kennard, Martin P.,	Brookline.
Kenrick, Miss A. C.,	Newton.
Lamprell, Simon,	Marblehead.
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Lee, Francis H.,	Salem.
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Loring, John A.,	"
Lothrop, David W.,	West Medford.
Lothrop, H. A.,	Sharon.
Lothrop, Thornton K.,	Boston.
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McIntosh, A. S.,	"
McLaren, Anthony,	Forest Hills.
Mellen, George M.,	Brookline.
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Auburndale.	Spooner, William H.,	Jamaica Plain.
Boston.	Sprague, Charles J.,	Boston.
	Squire, John P.,	Arlington.
Jamaica Plain.	Starbird, Louis D.,	Malden.
	Stevenson, Hamilton,	Woburn.
Boston.	Stone, Eliphalet,	Dedham.
"	Stone, Samuel G.,	Charlestown.
"	Storer, Charles,	Natick.
Cambridge.	Story, Miss Sarah W.,	Brighton.
, Boston.	Strahan, Thomas, Jr.,	Chelsea.
, Dorchester.	Sullivan, J L. D.,	Somerville.
.C., Cambridge.	Swan, Charles W.,	Boston.
West Newton.		
., S. Framingham.	Tailby, Joseph,	Wellesley.
/ L., Hingham.	Talbot, Josiah W.,	Norwood,
. Boston.	Tapper, Thomas,	Canton.
s A., Salem.	Terwilliger, S. F.,	Saratoga, N. Y.
W., "	Tobey, Miss M. B.,	Brookline,
	Todd, Jacob,	Boston.
, Sharon.	Torrey, Bradford,	"
Melrose.	Trautman, Martin,	"
. S., Brookline.	Turner, Nathaniel W.	"
- P., Lawrence.		
orace, Framingham.	Underwood, Wm. J.,	Belmont.
s E., Kingston.		
ard, Hyde Park.	Van der Veur, P. W.,	New York.
F., Cambridge.	Vaughan, J. C.,	Chicago, Ill.
W., Newtonville.		
ge, Boston.	Walker, Charles H.,	Chelsea.
	Walker, Joseph T.,	Boston.
k M., Dorchester.	Walker, William P.,	Somerville.
haniel F., Milton.	Webster, John,	Salem.
lis M.T., Salem.	Weld, Francis M.,	Jamaica Plain.
rge, Quincy.	Wellington, Chas. A.,	E. Lexington.
M., Fitchburg.	Wellington, Jos. V.,	Cambridge.
dam, Boston.	Wells, Benjamin T.,	Boston.
eorg A., Brookline.	Weston, Mrs. L. P.,	Danvers.
E., Lexington.	Wheatland, Henry,	Salem.

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Wheeler, Miss Ann C.,	Cambridgeport.	Wiswall, Henry M.,	Watertown.
Wheildon, Wm. W.,	Concord.	Withington, Henry H.,	Jamaica Plain.
White, Nelson B.,	Norwood.	Wolcott, Mrs. H. L. T.,	Boston.
Whitney, Joel,	Winchester.	Wood, Mrs. Anna D.,	West Newton.
Whiton, Starkes,	Hingham Centre.	Wood, E. W.,	" "
Wilde, Hiram,	Randolph.	Woodford, Jos. H.,	Newton.
Wilmarth, H. D.,	Jamaica Plain.	Woolson, George C.,	Passaic, N. J.
Wilson, B. Osgood,	Watertown.		
Wilson, George W.,	Malden.	Zirngiebel, Denys,	Needham.

EXTRACTS FROM THE CONSTITUTION AND BY-LAWS.

SECTION XXVI. — Life Members.

The payment of thirty dollars shall constitute a Life Membership, and exempt the member from all future assessments; and any member having once paid an admission fee, may become a Life Member by the payment of twenty dollars in addition thereto.

SECTION XXVII. — Admission Fee and Annual Assessment.

Every subscription member, before he receives his Diploma, or exercises the privileges of a member, shall pay the sum of ten dollars as an admission fee, and shall be subject afterwards to an annual assessment of two dollars.

SECTION XXIX. — Discontinuance of Membership.

Any member who shall neglect for the space of two years to pay his annual assessment, shall cease to be a member of the Society, and the Treasurer shall erase his name from the List of Members.

The attention of Annual Members is particularly called to Section XXIX.

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)NORARY MEMBERS.

r deceased. Correspondents of the Society and others will ommunicating to the Secretary information of the decease, ', etc., of Honorary or Corresponding Members.

, LL. D., Exeter, N. H.
ınswick, Me.
:Y ADAMS, LL. D., late President of the United States,

.SSIZ, Cambridge.
)N, late Curator of the Royal Gardens, Kew, England.
Ex-President of the St. Louis Horticultural Society, St.
o., and Pittsfield, Mass.
.PPLETON, Boston.
:NOLD, New Bedford.
ANIEL BANCROFT, M. D., late President of the Horticultural
icultural Society of Jamaica.
'. BARBOUR, Virginia.
ALDERON DE LA BARCA, late Spanish Minister at Washington.
.AY, Bury Hill, Dorking, Surrey, England.
AN, New York.
ÈSE, Paris.
)DLE, Philadelphia.
IGELOW, Boston.
3IGELOW, Medford.
ER SOULANGE BODIN, late Secrétaire Général de la Société
rticulture de Paris.
E S. BOUTWELL, Groton.
.DLEE, Boston.
GE N. BRIGGS, Pittsfield.
:S BUCHANAN, late President of the United States, Lancaster,
ın.
:L, late President of the Albany Horticultural Society, Albany,
Y.
IUND BURKE, late Commissioner of Patents, Washington, D. C.
PYRAMUS DE CANDOLLE, Geneva.
ACE CAPRON, Ex-U. S. Commissioner of Agriculture, Washington,
). C.
ORE ISAAC CHAUNCEY, U. S. Navy, Brooklyn, N. Y.

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*Ward Chipman, late Chief Justice of New Brunswick, St. John.
*Lewis Clapier, Philadelphia.
*Hon. Henry Clay, Lexington, Ky.
H. W. S. Cleveland, Chicago, Ill.
*Admiral Sir Isaac Coffin, Bart., England.
*Zaccheus Collins, late President of the Pennsylvania Horticultural Society, Philadelphia.
*Roswell L. Colt, Paterson, N. J.
Caleb Cope, Ex-President of the Pennsylvania Horticultural Society, Philadelphia.
*William Coxe, Burlington, N. J.
*John P. Cushing, Watertown.
*Charles W. Dabney, late U. S. Consul, Fayal, Azores.
*Hon. John Davis, LL. D., Boston.
*Sir Humphry Davy, London.
*Gen. Henry Alexander Scammel Dearborn, Roxbury.
*James Dickson, late Vice-President of the Horticultural Society of London.
*Mrs. Dorothy Dix, Boston.
*Capt. Jesse D. Elliot, U. S. Navy.
*Hon. Stephen Elliot, LL. D., Charleston, S. C.
*Hon. Henry L. Ellsworth, late Commissioner of Patents, Washington, D C.
*Allyn Charles Evanson, late Secretary of the King's County Agricultural Society, St. John, N. B.
*Hon. Edward Everett, LL. D., Boston.
*Hon. Horace Everett, Vermont.
*F. Faldermann, late Curator of the Imperial Botanic Garden, St. Petersburg.
*Hon. Millard Fillmore, late President of the United States, Buffalo, N. Y.
*Dr. F. E. Fischer, late Professor of Botany at the Imperial Botanic Garden, St. Petersburg.
*Hon. Theodore Frelinghuysen, late President of the American Agricultural Society, New Brunswick, New Jersey.
*Joseph Gales, Jr., late Vice-President of the Horticultural Society, Washington, D. C.
*George Gibbs, New York.
*Stephen Girard, Philadelphia.
*Hon. Robert T. Goldsborough, Talbot County, Maryland.
*Ephraim Goodale, South Orrington, Maine.
*Mrs. Rebecca Gore, Waltham.
*Hon. John Greig, late President of the Domestic Horticultural Society, Canandaigua, N. Y.
*Mrs. Mary Griffith, Charlies Hope, N. J.
*Gen. William Henry Harrison, late President of the United States, North Bend, O.
*S. P. Hildreth, M. D., Marietta, O.
*Thomas Hopkirk, late President of the Glasgow Horticultural Society.
*David Hosack, M. D. late President of the New York Horticultural Society.

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urg, O.
LL, late President of the Pennsylvania Horticultural
ıdelphia.
ISON, late President of the United States, Nashville,

NNOT, Salem.
rLAND, M. D., LL. D., East Rockport, O.
KNIGHT, late President of the Horticultural Society of

, La Grange, France.
STEYRIE, late Vice-President of the Horticultural Society

M. P., Montreal, Canada.
EBIG, Giessen, Germany.
)LEY, late Secretary of the Horticultural Society of London.
:ELD, U. S. Consul at Puerto Cabello, Venezuela.
ETH, Philadelphia.
VORTH, Cincinnati.
:D, late President of the New York Horticultural Society.
N, London.
LOWELL, Boston.
S FERDINAND HENRY VON LUDWIG, late Vice-President of
th African Literary and Scientific Institution, Cape Town,
Good Hope.
ıE LYMAN, Brookline.
: LYMAN, Brookline.
MADISON, late President of the United States, Montpelier, Va.
TTE MARRYATT, Wimbledon, near London.
ELL, Rio Janeiro.
CAULEY, U. S. Consul-General, Tripoli.
McKIM, late President of the Horticultural Society of Mary-
Baltimore.
H. MEANS, Dorchester, Mass.
)E, M. D., Philadelphia.
: MENTENS, Brussels, Belgium.
LES F. MERCER, Virginia.
ANDRÉ MICHAUX, Paris.
MITCHELL, New Haven, Conn.
MITCHILL, M. D., LL. D., New York.
ES MONROE, late President of the United States, Oak Hill, Va.
. MONSON, M. D., late President of the New Haven Horticultural
)ciety, New Haven, Conn.
N. MORIN, Montreal, Canada.
E MOSSELMANN, Antwerp, Belgium.
VON OSTEN SACKEN, Heidelberg, Germany.
TTENFELS, Austrian Minister to the Ottoman Porte.
.MER, Calcutta.

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*Hon. Joel Parker, LL. D., Cambridge.
Samuel B. Parsons, Flushing, N. Y.
*Hon. Thomas H. Perkins, Brookline.
*A. Poiteau, late Professor in the Institut Horticole de Fromont.
*Hon. James K. Polk, late President of the United States, Nashville, Tenn.
*John Hare Powel, Powelton, Pa.
*Henry Pratt, Philadelphia.
*William Prince, Flushing, N. Y.
*Rev. George Putnam, D. D., Roxbury.
*Col. Joel Rathbone, late President of the Albany and Rensselaer Horticultural Society, Albany, N. Y.
*Archibald John, Earl of Roseberry, late President of the Caledonian Horticultural Society.
*Joseph Sabine, late Secretary of the Horticultural Society of London.
*Don Ramon de la Sagra, Havana, Cuba.
*Henry Winthrop Sargent, Fishkill, N. Y.
*Sir Walter Scott, Abbotsford, Scotland.
*John Shepherd, late Curator of the Botanic Garden, Liverpool, England.
*John S. Skinner, late Editor of the American Farmer, Baltimore, Md.
1857— George W. Smith, Boston.
*Stephen H. Smith, late President of the Rhode Island Horticultural Society.
*Hon. Charles Sumner, Boston.
*Hon. John Taliaferro, Virginia.
*Gen. James Talmadge, late President of the American Institute, N. Y.
*Gen. Zachary Taylor, late President of the United States, Baton Rouge, La.
*James Thacher, M. D., Plymouth.
John J. Thomas, Union Springs, N. Y.
*James W. Thompson, M. D., Wilmington, Del.
*Grant Thorburn, New York.
*M. Du Petit Thouars, Paris.
*Le Vicomte Hericart de Thury, late President of the Horticultural Society of Paris.
*Mons. Tougard, late President of the Horticultural Society of Rouen, France.
*Gen. Nathan Towson, late President of the Horticultural Society, Washington, D. C.
*Hon. John Tyler, late President of the United States, Williamsburg, Va.
*Rev. Joseph Tyso, Wallingford, England.
*Hon. Martin Van Buren, late President of the United States, Kinderhook, N. Y.
*Federal Vanderburg, M. D., New York.
*Jean Baptiste Van Mons, M. D., Brussels, Belgium.
*Gen. Stephen Van Rensselaer, Albany, N. Y.
*Joseph R. Van Zandt, Albany, N. Y.
*Benjamin Vaughan, M. D., Hallowell, Me.
*Petty Vaughan, London.

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Montreal, Canada.
DRÉ VILMORIN, Paris.
eneseo, N. Y.
M. D., late Curator of the Botanic Garden, Calcutta.
M. D., late Professor in Franklin College, Athens, Ga.
ER, Marshfield.
Boston.
N, Cumberland, R. I.
NTHROP, Boston.
r, Litchfield, Conn.
rpool, England.
late President of the Kentucky Horticultural Society,

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CORRESPONDING MEMBERS.

A * denotes the members deceased.

*John Adlum, Georgetown, D. C.
Don Francisco Aguilar, U. S. Vice-Consul at Maldonado, Banda Oriental del Uruguay.
*Mons. Alfroy, Lieusaint, France.
James T. Allan, Ex-President of the Nebraska State Horticultural Society, Omaha, Neb.
A. B. Allen, New York.
Rev. Thomas D. Anderson, South Boston.
*Thomas Appleton, late U. S. Consul at Leghorn, Italy.
*Col. Thomas Aspinwall, late U. S. Consul at London, Brookline.
P. M. Augur, State Pomologist, Middlefield, Conn.
*Isaac Cox Barnet, late U. S. Consul at Paris.
Patrick Barry, Chairman of the General Fruit Committee of the American Pomological Society, Rochester, N. Y.
*Augustine Baumann, Bolwiller, Alsace.
*Eugéne Achille Baumann, Rahway, N. J.
*Joseph Bernard Baumann, Bolwiller, Alsace.
Napoleon Baumann, Bolwiller, Alsace.
D. W. Beadle, St. Catherine's, Ontario.
Prof. W. J. Beal, Lansing, Michigan.
*Noel J. Becar, Brooklyn, N. Y.
*Edward Beck, Worton College, Isleworth, near London.
Rev. Henry Ward Beecher, Peekskill, N. Y.
Louis Édouard Berckmans, Rome, Ga.
Prosper J. Berckmans, Augusta, Ga.
*Alexander Bivort, late Secretary of the Société Van Mons, Fleurus, Belgium.
*Tripet Le Blanc, Paris.
*Charles D. Bragdon, Pulaski, Oswego Co., N. Y.
*William D. Brinckle, M. D., Philadelphia.
*George Brown, late U. S. Commissioner to the Sandwich Islands, Beverly-
*John W. Brown, Fort Gaines, Ga.
Dr. Nehemiah Brush, East Florida.
*Arthur Bryant, Sr., Ex-President of the Illinois State Horticultural Society, Princeton, Ill.
*Robert Buist, Philadelphia.
*Dr. E. W. Bull, Hartford, Conn.
William Bull, Chelsea, England.

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Ex-President of the Ontario Fruit Growers' Associa-
S.
nited States Consul at Cadiz, Spain.
, Jefferson Co., Mo.
, Delaware, Ohio.
lew York.
hiladelphia.
ES, D. D., Newport, R. I.
Boston.
ea, England.
G, M. D., Boston.
. D., Lowell.
eur de Culture au Muséum d'Histoire Naturelle, Jardin
Paris.
rtland, Me.

I DILKE, Bart., London.
DGE, Hamilton.
D'OMBRAIN, Westwell Vicarage, Ashford, Kent, Eng-

DOWNING, Newburg, N. Y.
, Newburg, N. Y.
obden, Ill.
te Secretary of the American Pomological Society, Cleve-

GER, Rochester, N. Y.
RSON, LL. D., Winthrop.
NS, M. D. Williamstown.
ST, Cincinnati, O.
LOWS, Cuba.
, Newport, R. I.
te Secretary of the American Pomological Society, Moro, Ill.
, late Vice-President of the New York Horticultural Society,
rk City.
shington, D. C.
FREEMAN, Sandwich.
CLEJR, Ridgewood, N. J.
FULLER, Roxbury.
W. FURNAS, President of the Nebraska State Horticultural
y, Brownville, Neb.
NDE, late President of the Horticultural Society, Department
rthe, France.
GARDINER, Gardiner, Me.
ARDNER, late U. S. Consul at Palermo, Sicily.
T. GERRY, U. S. Navy.
. GIBSON, late U. S. Consul at St. Petersburg.
NING, Chiswick, near London.

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PROF. GEORGE L. GOODALE, Cambridge.
CHARLES W. GORDON, U. S. Consul at Rio Janeiro.
PROF. ASA GRAY, Cambridge.
1843— O. B. HADWEN, Ex-President of the Worcester County Horticultural Society, Worcester.
*CHARLES HENRY HALL, New York.
*ABRAHAM HALSEY, late Corresponding Secretary of the New York Horticultural Society, New York.
*DR. CHARLES C. HAMILTON, late President of the Fruit Growers' Association and International Show Society of Nova Scotia, Canard.
*REV. THADDEUS MASON HARRIS, D. D., Dorchester.
*THADDEUS WILLIAM HARRIS, M. D., Cambridge.
*JOHN HAY, late Architect of the Caledonian Horticultural Society.
*BERNARD HENRY, late U. S. Consul at Gibraltar, Philadelphia.
SHIRLEY HIBBERD, Editor of the Gardener's Magazine, London.
*J. J. HITCHCOCK, Baltimore.
ROBERT HOGG, LL. D., Editor of the Journal of Horticulture, London.
*THOMAS HOGG, New York.
THOMAS HOGG, New York.
1869— J. C. HOLDING, Ex-Treasurer and Secretary of the Cape of Good Hope Agricultural Society, Cape Town, Africa.
REV. S. REYNOLDS HOLE, Caunton Manor, Newark, Nottinghamshire, England.
FISHER HOLMES, Sheffield, England.
SIR JOSEPH HOOKER, K. C. S. I., Director of the Royal Botanic Garden, Kew, England.
JOSIAH HOOPES, West Chester, Penn.
PROF. E. N. HORSFORD, Cambridge.
*SANFORD HOWARD, Chicago, Ill.
*DR. WILLIAM M. HOWSLEY, late President of the Kansas State Horticultural Society, Leavenworth.
*ISAAC HUNTER, Baltimore, Md.
*ISAAC HURD, Cincinnati, Ohio.
GEORGE HUSMANN, Professor of Horticulture in the University of the State of Missouri, Columbia.
*PROF. ISAAC W. JACKSON, Union College, Schenectady, N. Y.
*THOMAS P. JAMES, Cambridge.
EDWARD JARVIS, M. D., Dorchester.
J. W. P. JENKS, Middleborough.
WILLIAM J. JOHNSON, M. D., Fort Gaines, Ga.
SAMUEL KNEELAND, M. D., Boston.
*MONS. LAFFAY, St. Cloud, near Paris, France.
*DAVID LANDRETH, late Corresponding Secretary of the Pennsylvania Horticultural Society, Bristol, Pa.
C. C. LANGDON, Mobile, Alabama.
*DR. WILLIAM LEBARON, late State Entomologist, Geneva, Ill.
G. F. B. LEIGHTON, President of the Norfolk Horticultural and Pomological Society, Norfolk, Va.

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D., Providence, R. I.
of the Dictionnaire de Pomologie, Angers, France.
gium.
cituate.
an Francisco, Cal.
. D., Newark, N. J.
of the Horticultural Society, Bourg-en-Bresse, France.
STERS, Editor of the Gardeners' Chronicle, London.
J. S. Consul at Liverpool, England.
neva, N. Y.
LEAY, New York.
Curator of the Botanic Garden, Edinburgh, Scotland.
Editor of the Gardener's Monthly, Germantown, Pa.
w York.
D., Secretary of the Horticultural and Agricultural
Jamaica.
lushing, N. Y.
H, Dalkeith Palace, near Edinburgh.
Philadelphia.
CHINI, M. D., Canea, Isle of Candia.
N, Editor of the Belgique Horticole, Liége, Belgium.
LL, M. D., Galena, Ill.
EY, late U. S. Consular Agent, Smyrna, Turkey.
, U. S. Consul, Florence, Italy.
A, New York.
, Paris.
ER, late U. S. Consul at Amsterdam, Holland.
TIER, Brooklyn, N. Y.
, Waltham Cross, London, N.
AXTON, M. P., Chatsworth, England.
ON, late U. S. Consul at Messina, Sicily.
w C. PERRY, U. S. Navy, Charlestown.
R, late U. S. Chargé d' Affaires at the Ottoman Porte, Con-
ople.
TTON PRINCE, Flushing, N. Y.
BERT PRINCE, Flushing, N. Y.
, Newark, N. J.
N RADCLYFFE, London, England.
STER REDDING, Baltimore, Md.
, Ocean Springs, Miss.
OLDS, Schenectady, N. Y.
ICHARDS, M. D., Illinois.
. RILEY, Entomologist to the U. S. Department of Agriculture,
shington, D. C.
INZ, JR., Frankfort-on-the-Main, Germany.
IVERS, Sawbridgeworth, Herts, England.
ROBINSON, Editor of The Garden, London.
YTH ROGERS, New York.

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*Capt. William S. Rogers, U. S. Navy.
*Bernhard Roeser, M. D., Athens, Greece.
*Thomas Rotch, Philadelphia.
*George R. Russell, Roxbury.
John B. Russell, Newmarket, N. J.
*Rev. John Lewis Russell, Salem.
William Saunders, Department of Agriculture, Washington, D. C.
*William Shaler, late U. S. Consul-General at Havana, Cuba.
*William Shaw, New York.
*Caleb R. Smith, Burlington, N. J.
*Daniel D. Smith, Burlington, N. J.
*Gideon B. Smith, late Editor of the American Farmer, Baltimore, Md.
*John Jay Smith, Germantown, Penn.
*Horatio Sprague, late U. S. Consul at Gibraltar.
Robert W. Starr, Port William, Nova Scotia.
Dr. Joseph Stayman, Leavenworth, Kansas.
*Capt. Thomas Holdup Stevens, U. S. Navy, Middletown, Conn.
1832 — William Fox Strangeway, British Secretary of Legation at Naples, Italy.
Dr. J. Strentzel, Martinez, Cal.
*Judge E. B. Strong, Rochester, N. Y.
*James P. Sturgis, Canton, China.
William Summer, Pomaria, S. C.
1833 — Francis Summerest.
*Prof. Michele Tenore, late Director of the Botanic Garden at Naples, Italy.
*James Englebert Teschemacher, Boston.
*Robert Thompson, Chiswick, near London.
*George C. Thorburn, New York.
Prof. George Thurber, Editor of the American Agriculturist, New York.
*John Tilson, Jr., Edwardsville, Illinois.
*Cav. Doct. Vincenzo Tineo, Director of the Botanic Garden at Palermo.
*Luther Tucker, Editor of the Cultivator, Albany, N. Y.
*Carey Tyso, Wallingford, England.
*Louis Van Houtte, Ghent, Belgium.
*Alexander Vattemare, Paris.
*Emilien de Wael, late Secretary of the Horticultural Society, Antwerp, Belgium.
John A. Warder, M. D., President of the Ohio State Horticultural Society, North Bend, O.
Anthony Waterer, Knapp Hill, near Woking, Surrey, England.
*J. Ambrose Wight, Editor of the Prairie Farmer, Chicago, Ill.
Benjamin Samuel Williams, Holloway, London, N.
Prof. John Wilson, Edinburgh University, Scotland.
*William Wilson, New York.
*Hon. J. F. Wingate, Bath, Me.
*Gen. Joshua Wingate, Portland, Me.
*Joseph Augustus Winthrop, Charleston, S. C.

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A HISTORY

OF

AMERICAN HORTICULTURE.

The attention of Trustees and Librarians of Public Libraries, and of Horticulturists generally, is called to the History of the Massachusetts Horticultural Society, for fifty years, from its foundation in 1829. This work will be found of general interest, as the introduction comprises a sketch, much fuller than exists elsewhere, of the History of Horticulture in the United States, from the settlement of the country to the foundation of the Society, and the history of the Society onward is, in the language of President Hovey, in his address at the dedication of the present Hall of the Society, "the History of Horticulture in our country." It is handsomely printed, on an extra quality of paper, and embellished with a fine steel engraving of Gen. H. A. S. Dearborn, the first President, and heliotypes of the two Halls erected by the Society. Among other interesting matters, it contains an account of the foundation by the Society of Mount Auburn Cemetery, the parent of all similar cemeteries in the country.

The work is furnished to members of the Society, at cost, $2.50, and to others, than members, for $3, but will be supplied to public libraries and booksellers at the same price as to members. Please address the Secretary of the Society, at Horticultural Hall, Boston.

ROBERT MANNING,

Secretary.

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ANSACTIONS

OF THE

etts Horticultural Society,

R THE YEAR 1883.

PART I.

BOSTON:
TED FOR THE SOCIETY.
1883.

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ANSACTIONS

OF THE

ietts Horticultural Society,

)R THE YEAR 1883.

PART I.

BOSTON:
NTED FOR THE SOCIETY.
1883.

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ng papers and discussions have been circulated to
n the form of slips reprinted from the reports made
ıry of the Society in the Boston Transcript. As here
papers are printed in full, and the discussions are
r than in the weekly reports, but have been carefully
speakers.

ttee on Publication and Discussion take this oppor-
at what they have before stated, that the Society is
responsible for the certainty of the statements, the
the opinions, or the accuracy of the nomenclature in
d discussions now or heretofore published, all of
ıt on the credit or judgment of the respective writers
e Society undertaking only to present these papers
s, or the substance of them, correctly.

BENJAMIN G. SMITH,
JOHN B. MOORE,
WILLIAM H. HUNT,
} *Committee on Publication and Discussion.*

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RANSACTIONS

OF THE

etts Horticultural Society.

USINESS MEETING.

SATURDAY, January 6, 1883.

ıted meeting was holden at 11 o'clock, the
CIS B. HAYES, in the chair.

etary being absent, owing to illness, E. W.
ording Secretary *pro tem.*

ered his annual address, as follows:

ESS OF PRESIDENT HAYES.

of the Massachusetts Horticultural Society:

ated to the science and art of Horticulture,
ning to renew our vows of devotion to the
ures associated with the place; to recipro-
the new year; to cheer and stimulate each
d while grateful to Divine Providence for
lished by our institution in the past, to
ture we will do more than heretofore,
gth and means afforded us, to fulfil the
ur organization.

for thankfulness that able and wise men in
his Society, and that by their efforts, and
and successors, so much has been done
d profit of the community. It is very

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pleasant to think that the benefits of this Society have not been limited by state lines or national boundaries, but that all the world has to some extent participated with us in the advantages resulting from the establishment of our institution. While we rejoice that so much has been done for the general good, by this Society since its origin, we should be animated by the desire to do more and more every year, as our knowledge and ability increase, that future generations may, by our example, be incited to take up the work when their predecessors are obliged to lay it down, and with loving diligence prosecute it to the glory of the Creator and the good of mankind.

Since our last annual meeting, I am happy to report good progress in the Society's work. Our exhibitions have been beautiful, instructive, and successful. The essays and discussions, which have been listened to by large audiences at our meetings with great satisfaction, have been able and interesting. Never before have our meetings been so well attended as the past year, thereby manifesting an increased interest of our members and the community at large, in horticultural subjects. The publication of our TRANSACTIONS has elicited the commendation of sister societies, and of many others in different parts of the world. Our library is in a better condition than it ever was before; its treasures are rapidly increasing, and, under the present excellent management, its usefulness has been much augmented. During the past year, our librarian, with the assistance furnished him, has made considerable progress in cataloguing the valuable prints in our possession, and this work will be prosecuted during the present year. Additional bookcases, and other conveniences for the library room have been provided, and rules for its use adopted, so that now it has become a favorite resort for our members, and others interested in horticultural studies.

I am happy to report an improvement in our financial condition during the past year. We have received a flattering increase in the rental of our halls over the previous year, proving the wisdom of the Society in making the improvements in our building in 1881. The Treasurer's accounts, when presented, will show that we have now about four thousand dollars more of cash on hand than we had on our last anniversary. Besides this, the returns from Mount Auburn Cemetery, not yet officially communicated to us, will exhibit an increase of revenue coming to this Society of about seven hundred dollars above the sum returned a year ago.

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with this report of increase of our income, we
that we cannot depend upon this increase being
)reover, if we make the contemplated improve-
ing, we shall lose during the progress of the
our stores, and shall need this surplus to sup-
ıcies.

want of means to accomplish the important
ty's formation. We require more money than
te growers of flowers, fruits, and specialties.
ıiums should be offered for excellence in these
·al premiums should be given for improvements
l, for the destruction of enemies to vegetation,
ases in plants, and for discoveries of new and
. Larger pecuniary inducements than we now
offered for procuring the best essays upon
and for their publication.

ellent halls for our exhibitions, a good library
)le of enlargement for receiving our books;
provided for the transaction of the business
rs, and now we must improve the condition
of our building, better adapting it to the
possible, that we may increase our rentals
e add to the beauty of the structure. For
he past year, as we did not wish to renew the
r stores, contemplating alterations of them,
to rent them temporarily to those who would
ıt. As it is desirable to procure as soon as
of tenants, and adapt our building to their
having the subject in charge have deemed it
the Society's willingness to alter the first
our building if it were desired, and to ask
wishing to hire the stores. The committee
the answers to their advertisement, it seemed
ing would result in such an increase of our
ıe expenditure necessary to make the im-
they would turn their attention to providing
ccomplish the object without burthening the
e subscriptions for the purpose have been
tain you will cordially coöperate in improv-
give the Society additional revenue which is
s increasing wants.

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The advantage of offering valuable prizes for specialties in horticulture was illustrated again in our Rose Show of last summer. Though generally this beautiful plant had suffered much from the severe early frost in the preceding month of October; yet by great care and labor, exhibitors showed very fine specimens of many varieties, which deservedly received the rewards of the Society and commanded the admiration of the public.

The Chrysanthemum Exhibition was perhaps the most remarkable one ever made in this country of this flower. All were charmed with it, so wonderful was the variety of color and form of the specimens shown, and the beauty of this exhibition, redounding so much to the credit of the exhibitors, will never be forgotten by those who witnessed it.

Observing the good resulting from offering special prizes, I am impressed with the great benefit which would result if we had the means of offering larger and more attractive prizes for many different specialties of horticulture.

It gives me great pleasure to bear witness to the valuable services rendered by all the committees during the past year, by which the dignity and high character of the Society has not only been upheld, but increased. We are, also, much indebted to the Treasurer and Secretary for the intelligent and faithful manner with which they have discharged their respective duties.

Ladies and Gentlemen: Bound together by a common love of nature, we have met, week after week, and month after month, to see the beautiful and useful products of the earth, to discuss their properties and peculiarities, their manner of growth and habit, and to receive and give information upon various horticultural subjects. Such association is not only pleasant, but necessarily profitable to us. We come to know each other better by acquaintance, and though at times we may differ as to the manner of best prosecuting our work; yet we have learned little if we have not learned that by sincere and earnest devotion to our work our views are enlarged, and we are more ready to give credit to our fellow laborers for intelligence and ability, seeing how difficult it is for man to probe the secrets of nature; and that, not infrequently, most valuable discoveries are made through the humblest instruments. By coming together, and learning the experience of many, each of us makes far more rapid advance in our loved pursuit than can be made by the individual, solitary labor of any one. Finding how

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on benefits us, it is plainly our duty to transmit not only unimpaired, but augmented, the means ıich we have enjoyed.

'e will cultivate more diligently than we have those kindly offices to each other which give intercourse. We will, disinterestedly, and with o truth and principle, conduct ourselves in the ır duties and relations to each other, in accord purpose and loftiness of character of our pre- nded and established this Society; and, with the ence, we will maintain and enlarge its usefulness, our day for that noble object, that its benign in- rpetuated and transmitted to future generations.

P. Wilder moved a vote of thanks to the Presi- and interesting address, which was passed unan-

moved that one hundred dollars be appropriated ions at the winter meetings, to be spent at the Flower Committee. The motion was carried.

of Arrangements asked further time to report, d. It was also voted to give the Treasurer further is report.

named persons, having been recommended by the nittee, were, on ballot, duly elected members of

TIS FULLER, of Needham.
S HEWINS, of Medfield.
LANE, of East Bridgewater.
. ALLEN, of Garden City, N. Y.
ERICK GODDARD MAY, of Dorchester.

Saturday, January 13.

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MEETING FOR DISCUSSION.

WHAT IS THE BEST METHOD OF REPELLING OR DESTROYING THE INSECT ENEMIES OF FRUITS AND FRUIT TREES, ESPECIALLY THE CODLING MOTH? IS TRAPPING A PROVED SUCCESS? WHAT ARE THE RESULTS OF EXPERIMENTS WITH PARIS GREEN, OR ANY OTHER POISONOUS APPLICATION?

By JACOB W. MANNING, Reading.

Few fruit trees or plants can be found that do not suffer in some way from insect enemies. The fruit, also, of almost every useful tree or plant is more or less defiled or injured so as to be lessened in value, or ruined for the use of man, as well as for domestic animals in many cases.

One injurious insect after another comes on, covering much or all of the season of growth and development of fruit, and even extending through the season of the preservation of the fruit,—all this to the dismay of the fruit grower; so that it may well be said that the man who carries to market fine specimens of fruit is to be compared to a warrior in an enemy's country, who has succeeded by strategy and great labor and bravery, in gathering spoils; he is not always sure of securing more, for the enemy may come upon him. He is often in fear lest the numerous insect tribes will destroy all his most reasonable hopes before he can find a market for his crop after it is grown.

The army-worm and the grasshopper have often destroyed all fruit, cereal, and forage crops in sight of a given point in a few hours, and man must stand by helpless; but such serious and almost uncontrollable disasters happen only occasionally.

The canker-worm in a few days has destroyed all hope of fruit on the apple tree, and if this pest is not arrested, after a few years the life of the trees, annually denuded of their foliage in their most active season of growth, is to be despaired of.

The most effectual remedy we yet know of for the extermination of the canker-worm is "London Purple" or "Paris Green"; the first is preferable, I think, because, on account of its lightness and its finer division, it will remain suspended in the water, and does not require the constant agitation necessary with the Paris

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The London purple has, also, a more prominent
een more readily on the leaf.
rtion is best found out by experiment; if it is
ill the leaves; if it is too weak, it will not kill
e found that a heaping teaspoonful to a three-
r was about right, or, on a large scale, about
dred gallons of water.
ied in a fine spray, either by a common garden
table pump and hose attachment. A supply of
with pump and attachment, may be moved in
o tree, and field to field. All the foliage should
as possible. It is sometimes necessary to go
r three times to kill all the worms, but we have
s where one application served to clear out the
n was seen again for years. This was the case
ard in Belmont, in 1878; also in 1880, in my
thousands of apple and elm trees, in nursery
of the pest by one application. This was
ms were nearly mature; there were some trees
escaped the poison, and it was supposed there
is left to spread over the grounds the next
our satisfaction they have not been seen since.
on I can give is, that the birds destroyed what
ad killed the greater part.
y the poison is, I think, as soon as the slight-
he leaf can be seen, but it was effectual in my
as were nearly grown.
liage of the cherry, plum, three-thorned acacia,
nore or less eaten by the canker-worm.
o reach tall elms with the syringe, and on such
nk on a band of paper, or a metallic collar filled
successful; or a box set around the base of the
for oil around the top, as was practised in
hard in Dorchester nearly forty-five years ago.
es lasted twenty years; the second set remains
ost about thirty-three cents each.
hat it is best not to battle the canker-worms at
n from five to seven years they will run their
ear; while, on the other hand, I am credibly
at Dorchester the canker-worm has never failed

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to appear in some parts of the town every year for more than fifty years.

The fact that the methods mentioned are effectual, affords one ray of hope for the tree and fruit grower. It would be of lasting benefit if one general application could be made to all sorts of trees infested with the canker-worm, as far as they extend,—for it does not appear to infest all sections alike. It is a strange thing, but yet a fact, that it was not known to reach beyond a certain division wall in one direction, yet ate all before it up to this wall at different intervals within the last hundred years. This instance is related by Mr. Hyde, of Newton. This pest is not of sufficient moment, however, to deter a courageous and vigilant man from planting orchards.

The orchard of our fellow member, T. C. Thurlow, of West Newbury, was devastated for years by the canker-worm, so that little fruit was obtained. By the use of printer's ink, involving an expense of four and one-half cents per tree, a reward followed, the next year, in a crop of nine hundred barrels of number one Baldwins, seven hundred barrels the next year, and fourteen hundred barrels the next year. Thus it seems the trees were determined to make up lost time when once relieved of the enemy that had preyed upon them.

The lesson seems to be, to plant trees and take care of them, and the canker-worm also. The fruit will increase, and the worms decrease, by as intelligent management as is necessary to conduct any business successfully.

The codling-moth is one of the most insidious of our insect foes. Coming, as it ordinarily does, in the moth state at the blossoming of the apple, the same amount of warmth that helps to bring out the apple blossoms also helps to bring out the codling-moth from its winter form in the cocoon. It then lays an egg in the blossom end or eye of the apple, and the worm coming from this eats its way into the apple, causing many to drop prematurely, and defiling many others that do not drop. The worm then comes from the apple and finds its way to crevices in the bark of the tree, or similar protection near by, where it spins for itself a cocoon and prepares for its transformation to a butterfly in the spring. Thus the round of life rolls on for this insect. Man has been obliged to study the life and habits of the insects to find a remedy for the injury they do him. He has found that they go

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ges in a season, and all these at his expense
ıeir posterity; and thus from year to year they
, like all other forms of animal and vegetable
o be pleasing themselves, but they live really
on of their several species. But all apple
ted in the prevention of the codling-moth and
ating his apples and pears.

no new remedy, but we must rely on the old
which would be made more effective by a com-
es, so that one man who is trying to rid his own
be beset on all sides by the unchecked insect
hbor, obliging him to keep up the same efforts
We have plenty of examples showing that the
ematic application of the old remedies is suffi-
warrant its continuance; and if it is not done,
l be outdone.

lestroying all fallen and worm-eaten apples is
uirements. Swine or sheep running at large in
aid in picking up all wormy apples and in keep-
ll worked and fertilized, and free from grass.
ork of swine in the orchard of Col. E. C. Shir-
N. H., who communicated with this Society
as a more vigorous growth of the trees, and a
rins on the odd year, that were very free from
fair, and handsome. His orchard is on high
gravel subsoil. His neighbors' apple crops, on
ut this swine culture, were poor, and the fruit

ubtedly a help in reducing the number of worms
rt to the traps, whether these are straw bands
woollen rags or any other substance that affords
ısform from the larva to the cocoon state; and
ıat a supply of hot water, made transportable,
ing to immerse these shelters in, rather than to
by pounding or hand picking, as is usually
rk should be scraped off the trees to reduce the
here the worms can find shelter.

ght in the garden and orchard are within the
erve to destroy a great number of winged in-
codling-moth, and it would be well to have

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tree slugs can be destroyed by a dusting with
plaster of Paris. A sprinkling of dry dust
off the tree, and very few are able to return.
purple and water can be relied upon to destroy
o all animal life.
remedy for plant lice than tobacco water.
can be easily destroyed by hand picking or the
the worms are in their webs, on a cool day or
. They can also be prevented by picking their
and in glazed masses surrounding the twigs,
For the last six or more years we, and all in
been almost entirely free from the ravages of
I am confident that they were destroyed by
ongealed and covered every part of the trees
ice near the hatching season, thus destroying
nd, where the storm was snow instead of rain,
re destructive than that same spring, when they
s.
in use among plum growers for destroying the
f the insects by a sharp blow of a mallet on a
the purpose. Sheets are arranged around the
nsects are caught, collected, and destroyed. It
also, to jar all trees where the insects may
y of the plum trees. Many have of late plant-
en yards, and it is found that the hens destroy
ivate and fertilize the trees, and thus good crops
plum cultivator, and he may rely upon one every
is so fully appreciated that the sale of plum
creased.
currants and other small fruits is to be taken
ssion, I will not refer to them in this paper.
uld suggest that any effective or new methods
on that are observed, from time to time, by
ety, be reported at our meetings.

Discussion.

. Wilder said that he who will not take care of
ent the ravages of the canker-worm, deserves to
p. The curculio can be overcome by jarring

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the trees suddenly, and destroying the insects that drop; shaking will not do.

Benjamin P. Ware would use the residuum from kerosene oil works, in preference to printers' ink, for destroying canker-worms, as it does not dry so quickly, and it is very much cheaper. Printers' ink should be renewed at least once in three days, but the substance recommended will last at least twice as long.

James P. King had had much experience with the canker-worm, and had tried printers' ink with no avail, but by the application of the residuum of kerosene he destroyed them entirely.

Edmund Hersey thought there is a second brood of codling-moths. In regard to the canker-worm, he thought that if hens were kept in the orchard there would be no trouble from them. He recommended the same remedy for the curculio.

William C. Strong thought the rose-bug is becoming one of the most formidable enemies of plant growers.

Avery P. Slade had had some experience with the rose-bug, and had formerly fought them by hand picking, but latterly had used kerosene in a wash-pan, jarring the insects into it with a small stick.

William H. Hunt had used the method mentioned by Mr. Slade, to destroy rose-bugs. He thought they leave all other grapes for the Clinton, and that if a row of this variety were planted around the vineyard it would protect the vines within.

Mr. Strong thought the *Spiræa sorbifolia* a better trap than the Clinton grape. They can be easily destroyed when on the flowers.

N. B. White thought the rose-bug was destined to become the worst enemy of the fruit grower.

Hon. James J. H. Gregory had an orchard destroyed by using fish oil to kill canker-worms.

Mr. Wilder closed the discussion by recommending caution in the use of oil on trees.

Notice was given that on the next Saturday, Dr. H. P. Walcott would read a paper on "Chrysanthemums and their Culture."

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BUSINESS MEETING.

SATURDAY, January 13, 1883.

ieeting of the Society was holden at 11 o'clock,
ı. FRANCIS B. HAYES, in the chair.

ead a letter from Winthrop Sargent, of Fishkill-
Y., acknowledging, in behalf of the family, the
by the Society in memory of his father, the late
argent, and thanking the Society therefor. The
to be placed on file.

turday, January 20.

ETING FOR DISCUSSION.

ANTHEMUMS AND THEIR CULTURE.

Dr. HENRY P. WALCOTT, Cambridge.

num family is not only a very large one, but
ver the four quarters of the globe. Only two
re to be the subject of my remarks today, and
ily to have been satisfactorily determined by
They are the *Chrysanthemum Indicum* (small)
e *Chrysanthemum Sinense* (large) of Sabine.
a small, yellow variety, which was growing in
Apothecaries' Botanical Garden at Chelsea, in
ave attracted very little notice, and in a few
This was, no doubt, the type, the varieties
n now as Pompon and Liliputian. It was
ranching plant, eighteen inches high. Beyond
of the chrysanthemum in the "Flora Japonica"
ore is heard of the plant until 1789, when
t of Marseilles, imported thirty varieties from
, and violet, only one of which, the purple,
. A year later, this purple variety made its
was the first large flowering chrysanthemum
try. In 1795, it bloomed in Mr. Colvill's
tured in the Botanical Magazine, and seems

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to have attracted so much notice that several importations of the plant were made; notably by Sir Abraham Hume and Mr. Reeves. Up to the year 1820, the number of varieties had only increased to twelve. In 1865, according to Mr. Salter, the number was over six hundred.

In 1846, Mr. Fortune brought from China two small flowering varieties known as the Chusan Daisy and *Chrysanthemum minimum*, the last the *Chrysanthemum Indicum* of the Chelsea Garden. They would, perhaps, have shared the fate of their predecessor in England, but were, fortunately, carried to France, where the variety immediately became a great favorite, and, as such, has continued the more popular species to this time. From them came all the Pompons now in cultivation.

In 1862, Mr. Fortune introduced several Japanese varieties, some spotted and striped, others of fantastic forms called dragons,—*laciniatum*—still grown. From this latter date to the present time, the progress of cultivation and improvement has been rapid and decisive.

The origin of the different forms of the flowers lies mainly in the changes undergone by the corollas of the disk- or eye-florets. In the wild form, the ray-florets have strap shaped corollas, and the disk-florets regularly five toothed tubular ones. The principal changes in the florets of the disk are

1. To strap shaped becoming flat from base to tip, and these either incurved or reflexed.
2. These may be rolled longitudinally either inwards or outwards.
3. Loose or spreading, attenuated or bifurcated.
4. As above, but with laciniated petals.

The subsequent changes retain the tubular corolla,

5. And this short with enlarged teeth (Anemone).
6. Teeth much enlarged (Dragon).
7. Tube much enlarged, teeth indistinct (Quilled).
8. Quilled but open at the mouth, and spoon shaped, a section represented by the Emperor of China.

Seed was first saved in France in 1830, by M. Bernet, at that time, and for many subsequent years, the most successful grower of the country. Of his early seedlings, the two remarkable reflexed flowers, Christine and Chev. Domage, are still grown. He was succeeded by Bonamy, Pelé, and Lebois, who added many fine

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cially Pompons. Seed has been saved by a few
gland, but I cannot ascertain that anything has been
ay of late years, though it should always be a spur
of seedlings, even under great difficulties, to know
y Prince of Wales is of English origin.

amateur, in Jersey, took up the chrysanthemum,
rge number of very fine seedlings, which were sold
er. These were of the Large Flowered class, and
ly secured much favor at the English exhibitions.
e incurved, and of purer colors, than anything pre-
In 1843, Mr. Salter began the raising of seedling
s at his nursery in Versailles, and in 1847 exhibited
ngland, still regarded by many as the finest chrys-
nt.

sketch of the history of the chrysanthemum from
we may note its development from the ragged,
er, to that with broader and more compact florets;
to the reflexed ranuculus form, ending at last in
etrical incurved flower, like Prince Alfred. But
om for improvement — possibly not in form, but
and color.

n of the chrysanthemum begins with the treatment
plant. This should be at once cut to the level of
he end of its flowering season. It is necessary
which are promptly made from the neck of the
grown with thorough exposure to light and air.
s of a good plant in November, is a strong, well
in March. With the exception of a few late
s, like Grandiflora, Purple King, and Virginale,
r propagation is March. The cuttings should be
inches long, and my habit is to pot them sep-
d a half inch pots.

; be subjected to bottom heat during their root
en this process is fairly completed they should
nch pots. For this potting the soil should be
, one-quarter leaf mould, and one-quarter well
ure. When the plant has reached a growth of
inches, I pinch down to four buds, without
oung plants should be given a place in a cold
possible, and in the third week in May planted

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in the open ground in a thoroughly exposed location, and at a distance apart of not less than three feet.

The subsequent care consists in keeping the ground moist and watching carefully for the first serious appearance of mildew, which, in my own garden, almost invariably first appears between the 16th and 31st of August. My final potting is finished by the 12th of September, and the plants are kept in the open air in a sheltered situation until the first severe frost; they then receive the shelter of a cold house. The final potting is made with soil composed of equal portions of rotted sod and stable manure, and, until the buds are on the point of expanding, the plants receive frequent waterings with some strong liquid manure or a solution of some artificial fertilizer.

While I think a much more attractive general show is made by our habit of exhibiting plants covered with an abundance of flowers, there is, also, as little doubt in my mind that the only way in which to secure flowers of the best quality is that pursued by the English growers, which it may be of interest to describe. It must be remembered that incurved flowers only are shown at the great London shows for cut flowers, those with reflexed petals not being admitted, except to separate and distinct classes. Though this rule may appear to be an arbitrary one, it ensures a more agreeable and harmonious impression in small collections.

The largest and most perfect blooms are had from maiden plants; that is, from suckers or cuttings of the year, and not from parts of the old root, inasmuch as the young plant can be kept constantly growing — a vital point, — whereas, the older plant soon becomes exhausted, and fails to give a continuous growth. In the earlier stages of growth, the same soil and treatment as have been directed for the specimen plant are necessary here, except that with these the leader must never be pinched in, but must be allowed its natural growth in order to concentrate the whole vigor of the plant in its main stem. If planted out — which is, undoubtedly, the best practice here — they should be potted by the middle of August, and well staked, removing all laterals as soon as they appear. Before their potting the crown will probably have thrown out two or three leaders, which must not be removed. Constant watering and syringing are necessary from this time on, to remove insects and keep the foliage bright. In September, buds will appear at the ends of the branches; the largest and best

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generally, but not invariably, the centre one —
rest removed at once, without injury to the
ou will thus have three buds, and, probably, in
markable flowers.
ease of the chrysanthemum is the mildew above
ly remedy is sulphur, thoroughly applied, either
npound, with quicklime, in water, called Water
ade as follows: one pound of sulphur, one
and three quarts of water, are boiled ten min-
It should stand until it has settled, when the
d off and bottled, and, when used, diluted with
f water.
ies are, first, the green aphis throughout the
season the black aphis, and all the grasshop-
year I have lost a number of plants by some
I have not yet been able to identify. The
ealt with by tobacco. The grasshoppers must
l, and the root louse is still master of the

the formation of the plant, this is effected by
varieties, so far as growth goes, stand it. To
flower, however, I am satisfied that the Japa-
d not be pinched more than once, or the Large
e than twice. The Pompons, on the contrary,
h safety to any extent, and as late as the mid-

hat I have to say is the result of my experience
the soil of which is a thin, dry, sandy loam,
gravel. The Japanese kinds which have
me are the following.
ry large, yellow, but rarely in bloom before
er.
ose mixed with white, centre yellow.
ge; well described by Bernard, producer of it,
he rose Souvenir de la Malmaison.
ng red florets, tipped and spotted yellow, with

ite; broad petals; full.
ernsey.—Pure white; long, ribbon-like petals.
llow.

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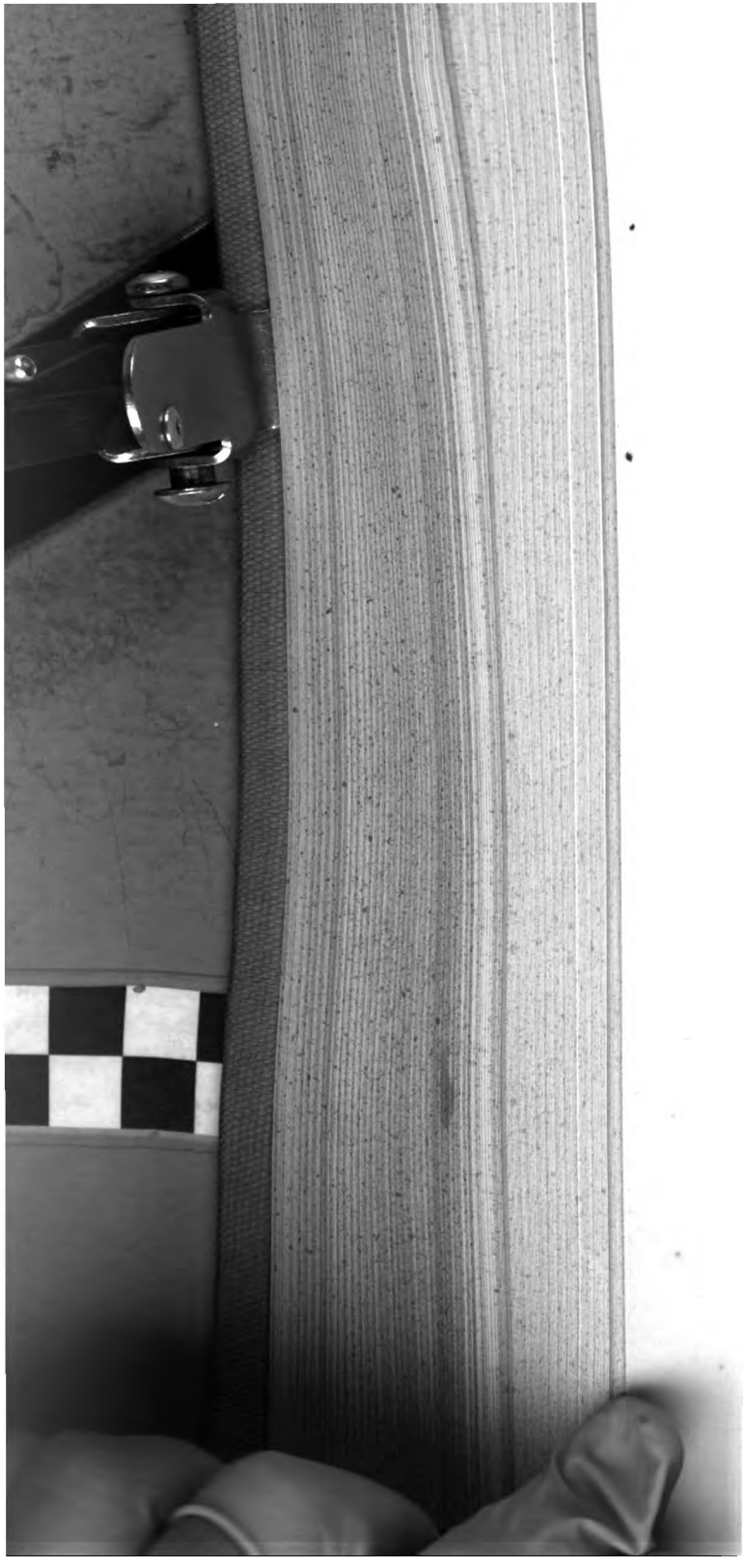

La Charmeuse.—Early; rich purple, tipped white.

M. Délaux.—Very large; full; reddish crimson, reverse yellow.

Purple King.—Deep purple; late.

The Cossack.—Maroon and yellow.

Parasol.—Petals incurved; chamois colored, edged with gold.

LARGE FLOWERED VARIETIES.—The following is a selection of the best kinds, both for cut blooms and specimens. Many kinds cannot, under any circumstances, be grown for specimen plants—Crimson Velvet, for instance.

The recommendations of the English growers cannot be trusted in this climate. The two most reliable varieties in England appear to be Mrs. George Rundle, pure white; and its yellow sport, George Glenny; but though occasionally succeeding here, I do not think a specimen plant can be had oftener than one year in every five. Mr. Clark once exhibited a very fine specimen.

Guernsey Nugget.—Primrose yellow. It can be recommended for its short-jointed growth and general vigor.

Prince of Wales.—Purplish red; one of the best growers and bloomers.

Mr. Brunlees.—Red, tipped with gold; also very good.

Jardin des Plantes.—Intense bright yellow; unique in color, though not a very good grower.

Venus.—Lilac peach.

Dr. Sharp.—Crimson red.

Mrs. Haliburton.—Creamy white.

Annie Salter.—Soft yellow.

Souvenir de Mercedes.—Preëminent in all good qualities except size.

Orange A. Salter.—A good old kind for compact specimen plants.

Of plants that occasionally furnish a good growth, and, with proper care, always a good flower, are the following.

Prince Alfred.—Rosy red; one of the best blooms in existence.

Princess Teck.—A very large white kind, and

Hero of Stoke Newington, the pink sport from it.

Pink Perfection; Synonym, Mrs. Mary Morgan.—Rich rose; a very handsome flower, and the plant possesses good foliage.

Julia Lagravère, velvety red, and

Procne, very bright amaranth, are indispensable in a collection on account of colors, though not good growers.

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m-colored flower; good both as a specimen

ogue.—Bright yellow with red tips; when
the best.
sh rose.
one yellow.
ure white, and the magnificent golden sport

the.
red.
emone; lilac blush, with light yellow centre.
ı, tipped with gold.
d.
rose, tipped with gold.
ellow, delicately fringed.
anthemum is essentially a plant requiring
s flowering, a number of varieties have been
only flower in September and October, but
July; and the number of these has, by the
rowers, much increased in the last few years.
resentatives of all these varieties. The

ac.
.
ellow.

ll red.

ion from which I generally obtain flowers
s of Japanese,
Clear and satiny rose.
—White.
E FLOWERS. *Adonis.* — Cream white,

w; large flowered.
purple, tipped with white.

; he had had in his collection, first and
hundred varieties.

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Discussion.

E. W. Wood, who was called on by the President, said that Dr. Walcott had entirely covered the ground, and that any one who followed his directions would be able to bring in exhibition plants. The varieties have increased largely, but more dark, bright colors are wanted. The chrysanthemum has great advantages as a house plant. Ladies desire plants for winter blooming, and run to roses, but it is difficult to cultivate them in the house under the most favorable conditions, and almost impossible under ordinary circumstances. Chrysanthemums may be grown in dwelling houses in all their glory by keeping them in a cool room. The black aphis is as easily destroyed as the green, by removing the plants to a room where they can be fumigated with tobacco. The plants should be kept out-doors as late as possible. Much of the trouble in growing them arises from improper treatment after flowering. Sometimes they are placed under the greenhouse stage without water, or too much water is given, or else improper care or no care is taken of them. Over watering causes the roots to become diseased, and then the cuttings rarely give healthy plants. The speaker would add to Dr. Walcott's selection, the Golden Dragon, a very strong and vigorous Japanese variety, and the Golden Queen, a large Chinese variety, which retains its foliage well. Last year he struck half his cuttings in January and half in March, and those planted the middle of March were better than those planted in midwinter. They were removed to cold frames as early as possible, and planted in the open ground the last week in May. They were not watered at all during the summer. When lifted for potting, a spade was put down at one side, and the plants came up with a mass of roots. When placed in the pots they received a thorough watering, and hardly wilted. He would prefer to take up the plants when perfectly dry. The only difficulty in cultivating chrysanthemums is mildew, and this is a serious one. Some varieties are more liable to it than others, and one side of a plant will sometimes become mildewed when placed next to a mildewed one. Mr. Wood thought we should attempt to get a stock of native seedlings which would be free from mildew.

Joseph Clark had used whale oil soap successfully as a preventive of mildew on the leaves, when growing in the summer.

Edward L. Beard said that the Japanese varieties should not be

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as the others; one nipping is enough. Another
ıg them in small pots too long; they need to be
sly, and unless they are cannot be grown suc-
operly nipped they can be flowered much earlier.
e inveterate enemies, and are most troublesome
. The Japanese varieties are being more gen-
l. At an exhibition in England twenty-five or
ties, mostly of French and English origin, were
f the newer ones have the bright vivid colors so

l that he did not mean to give the idea that none
varieties are early, but only six out of sixteen
hibition. Discretion is needed in nipping; some
require it at all; he never nips after the 25th of

ong said the chrysanthemum had been spoken of
d for house culture, but it is an objection to it for
t they all bloom at one time; and he asked
e of cultivation would extend the season of bloom
r and January.
nswered that he had the Virginale, a pure white
od flower, and also two or three seedlings. But
chrysanthemum is to bloom in October and
vith most varieties, there is no way to avoid it.
Nugget is cut down in October, and good suckers
grown in heat in winter, they will flower in May
e are varieties which flower in July, and with
e can have chrysanthemums most of the year.
Mr. Wood as to the value of the chrysanthemum
ellings, but it is valuable for decorating them.
from his greenhouse into the vestibule of his
here it is cool, and they last three or four weeks

that if the George Peabody and Golden George
wn a foot from the ground, each shoot will give
Peter Henderson says that if the buds of the
are cut off, so as to prevent them from blooming
they will bloom in January.
d that his first attempt to raise seed was made
nd the third season he got all he wanted. There

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is no difficulty in raising seed if the house is given up to it. The formation of seed commences in every house, but it is only perfected in a dry atmosphere. The house must be aired thoroughly, and the plants never syringed, but kept dry. To prevent the collection of moisture at the base of the flower, he cuts off the petals. It is difficult to hybridize chrysanthemums, because the bees get the start. The results of his attempts at hybridizing are not encouraging; they are not superior to those obtained from seed not hybridized.

C. M. Hovey said that the chrysanthemum is a good plant for the dwelling house. Attempts have been made to get flowers in winter, and they have occasionally been successful to some extent, but a fine display of flowers cannot be obtained. He knew one gentleman who had two or three kinds at Christmas, and possibly something might be done by retardation. It is the nature of the plant to bloom at a certain season, and it cannot be forced or retarded with much success. Except some of the new varieties, there do not appear to be as many blooming in the open garden as in former years. Forty-five years ago he grew seventy varieties, collected from all sources in this country and Europe. He had twenty-five or thirty kinds from Prince's nursery. The London Horticultural Society gave great attention to the chrysanthemum, and several long articles by Mr. Sabine, the secretary, appeared in their "Transactions" from 1821 to 1826. Pompon varieties were then known. Many of the new varieties are no better than the old ones. The first seedlings were raised from twenty to twenty-five years ago by Salter, in England, and later, by Lemoine and Crouse, in France. The chrysanthemum is an amateur plant, and requires attention at a certain time, which must be given right along, as with the fuchsia. Unless the requisite conditions are complied with, you cannot grow fine specimens and large perfect flowers. He saw at Mr. Henderson's, in New York, a thousand plants in two and a half inch pots, with from three to nine flowers each, the day before Thanksgiving. He had attempted this, but unsuccessfully; the tops ran up too high and the roots run down. The secret of success was in late propagation, the cuttings having been struck the 10th of June. Dr. Walcott saw a plant in England ten feet high, but that cool climate is more favorable to the chrysanthemum than ours.

Dr. Walcott said that the plant referred to by Mr. Hovey was

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he champion chrysanthemum grower in England.
above the level of the pot The name of the
. Ch. Audiguier. In September the buds were
ter. It was an exceptional plant, with only

thought that Mr. Hovey had put a lion in the
by overstating the care and attention required
s. No other plant gives so great a return for
y bestowed on it. It is a thousand times more
ard wooded plants. It comes at a time when the
stripped of flowers, and tides over a barren
hat almost all of them flower at the same time,
) more out of a plant than there is in it; still
hich may prolong the season, one of which is
ety with a black eye. Not much can be done
Mr. Hovey says that nurserymen do not grow
Mr. Turner, of Slough, raised hundreds of
for balcony and in-door decoration. In ten
hundred plants sold where we see one now.
at the trouble with amateurs is, that they are
plants from nurserymen. The plants should
ddle of March, and kept in cold frames, and
e pot bound until it is time to put them in the

Mr. Wood had expressed his views exactly.
a favorite plant with him, and easily grown.
that he grows chrysanthemum plants of very
s customers prefer such. Few plants give
y dwellings. The chief point in their culti-
abundance of water. He propagates early
n May; plants them out in June, pinches
es them up in September. He uses a fork
refers dry weather for that operation, when
rom the roots. Last year was exception-
ulture.

lder said that the discussion had brought
f chrysanthemum culture. They must be
ngs, and not from little wiry offsets, and
re and after they are planted out. He
ords so good a return with so little labor,

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and they come at a time when there are few flowers. No other flower is so good to cut from. He fills every available space in his greenhouse with them. Sulphur, with a little caustic lime, is a sovereign remedy for mildew in chrysanthemums, as well as in grapes.

P. B. Hovey said that Mr. Cowan, gardener to Col. Thomas H. Perkins many years ago, used a pound of sulphur and half a peck of lime for mildew, the sulphur being placed on the lime, slaking them slowly together, which caused the sulphur to unite with the lime. The tub (a half hogshead) was then filled up with water, and a quart of the solution diluted with two or three gallons of water for use. The tub was covered with a blanket while slaking, to keep in the fumes. When the lime settled, the water was left clear but tinged in color by the sulphur.

The President gave notice that, on the next Saturday, William E. Endicott would read a paper on "Lilies, and their Culture."

BUSINESS MEETING.

SATURDAY, January 20, 1883.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair. No business being brought before the meeting, it

Adjourned to Saturday, January 27.

MEETING FOR DISCUSSION.

LILIES AND THEIR CULTURE.

By WILLIAM E. ENDICOTT, Canton.

The genus Lilium is found throughout nearly the whole of the north temperate zone, and nowhere else, with the exception of the East Indian species, *Neilgherrense*, *Wallichianum*, *Philippinense*, *polyphyllum*, and one or two others, growing, however, at such altitudes as to be in a temperate climate. It is remarkable that the vast plains of Central Asia do not furnish a single species,

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in tulips, fritillarias, and other bulbous plants.
nown fifty species of lilies with, perhaps, sixty or
, so that we have about a hundred and twenty
this genus with which to decorate our gardens.
are, of course, much more beautiful than others,
mpting to decide upon matters of taste, we may
d that all will agree that the dull, ochreous reds
ıe of the erect flowered species, such as *bulbiferum*
are less pleasing than the pure white of the
lorum, or the brilliant scarlet of *chalcedonicum*.
that many new species will be hereafter intro-
ay reasonably look for a few when the great
ı shall be opened to travellers, as seems likely
e, and it is by no means improbable that some
to small and secluded districts, may be discov-
ch in the longer known countries.
nce with lilies has not been extensive enough
tempting to instruct this audience upon points
will speak of a few species only, leaving it to
ıe subject.
all lilies is, unquestionably, the *auratum*, and
p of it in bloom is certainly a fine sight. It is
nt, suited to pot culture, though a strong bulb
first year; yet I do not find such confined
o the maintenance of its health, still less to its
its flowers, too, makes it look out of place
s proper position, therefore, I think, is out of
own that there is a delicacy in the constitution
has been the cause of much disappointment
It has been the experience of thousands that
ering pretty well for a year or two, dwindle
no offsets. I believe that the gardens are
clumps of this lily in perfect health that
positions five years. I have planted great
bs in soils and positions as different as I
ll have followed the same road to decay and
six, planted ten years ago in ordinary gar-
ıow in good condition, except two, one of
nocked off three years ago by a hoe in the
ın and has not flowered since, though there

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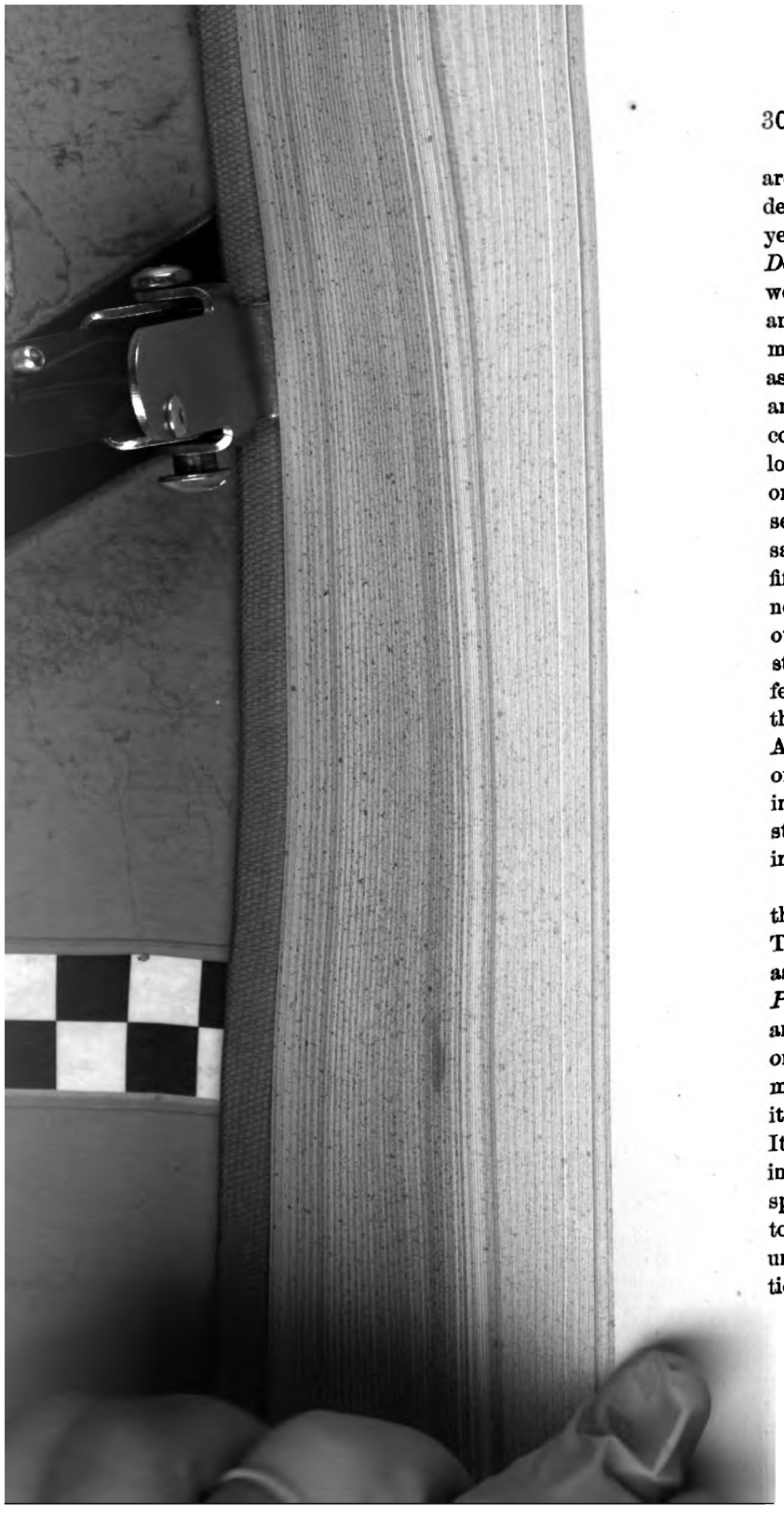

are several shoots from offsets which started into growth upon the death of the central stem. The other one did very well until two years ago, when the underground shoot of a plant of *Arundo Donax* pierced the centre of the lily bulb. The four remaining, which were planted as single bulbs, send up five or six growths annually, and blossom well. These bulbs have done better than any others of my own or of my neighbors', and I ascribe their success, imperfect as it is, to the fact that they were set, originally, between twelve and fifteen inches below the surface. I have since come to the conclusion that all lilies should be planted deep rather than shallow. To get a sound, strong stock of *L. auratum*, I should depend on home grown bulbs, raised, I mean, from the seed; for such seem better adapted to our climate than Japanese bulbs. The same is the case in England, where such sell from twenty-five to fifty per cent higher than the imported ones. It appears to be necessary, or, at any rate, beneficial, in the case of this and all other species to provide a partial shade for the lower half of the stem. We read in the English papers of *Lilium auratum* eleven feet high, and floriferous in proportion. If anything approaching this has ever been achieved here, it has not come under my notice. A remarkable thing with *L. auratum* is its variability in the time of flowering. In my own garden I have bulbs in flower frequently in June, in September and in the intervening months, and, stranger still, the plant which flowered early, one year, will frequently come into bloom late, the next.

The most beautiful lilies, in my opinion, are those belonging to the sub-genus, Eulirion; what we may call the Longiflorum section. These are mostly white lilies, various in shading and form, such as *longiflorum* and its varieties, *Wallichianum*, *Neilgherrense*, *Philippinense*, etc. The best known of this group are *candidum* and *longiflorum*, so much grown for florists' use. *Candidum* is one of the oldest garden lilies, and, take it all in all, the finest, in my opinion. It likes a moderately moist, moderately rich soil. If it has this it will grow to perfection with exceedingly little care. It is the only lily which I have cultivated that has ever been injured by insects. Three years ago, when my bulbs of this species were about to blossom, the buds, instead of opening, seemed to hesitate a day, as if to make up their minds, and then decided it unanimously in the negative, withered and drooped. An examination showed that each stalk was pierced a few inches below the

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hole as large as a knitting needle, and I found
aten its way up the middle of each stalk, devour-
went. I killed every one of them, and have not
ce.

rum is marked in some catalogues as not being
ceived by this for a long time, and I speak of it
e may be some here who do not know how incor-
it is. I hardly need say that *Lilium longiflorum*
inter we are likely to have in this latitude, pro-
l in a soil light rather than heavy. In my hybrid-
, I have not found it easy to induce this species
h I have tried it with pollen of *Philadelphicum*,
bum, and others. The opposite fertilization is
named species forming abundance of seed when
ngiflorum pollen. I say nothing of forcing this
lidum, for I have never had any experience,
who make a business of it will pardon me if I
. A lily deprived of its anthers is deprived of
d character, and of nearly all beauty; why not
of keeping the pollen inside of the anther, and so
all its unmutilated loveliness. I believe that
e found to accomplish this, without much trouble.
—those of the eastern States—vary to a consid-
d the finest forms are very beautiful, and well
of getting and caring for them. The *Lilium*
often found of a dull red; but sometimes, and
or is exceedingly pure and intense. The finest
n of this kind grew in a little open place in the
wich, in southern New Hampshire. The species
in southern Maine, and the flowers may be seen
both sides of the railroad between Portsmouth
have never seen more than five flowers on a
ve heard of as many as nine. *L. superbum*, so
theastern Massachusetts, is well named. Its
ers of various shades of scarlet and crimson,
and spotted with brown, make it truly superb.
res more dampness in the soil than most kinds.
se is the most common kind in most parts of
l varies quite widely in regard to height, depth
of spotting, breadth of petal, etc. The best

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DISCUSSION.

Hovey was called upon as having had much experi-
, and said that it was a subject of great interest to
devoted much attention to the genus, beginning
'ancifolium, about 1841, and as early as 1844
;bridize it, producing the variety Melpomene; and
edling which surpasses even *L. auratum*. He had
.ttention to native lilies. If he could have but one
ke *lancifolium*. This species is one of the hardiest
most beautiful. He thought the trumpet-shaped
d by impregnation with the other species. He
'erent crosses of various lilies including *candidum*
, but the seedlings had the petals all slit into
ıd he gave it up and confined himself to *lancifolium*
ınctatum, *superbum*, etc. He could see a difference
which would not be noticed by an untrained eye,
nine varieties, varying in the size or breadth of
of color, number and size of spots, etc. He could
ongiflorum is as hardy as some of the other lilies,
ad suffered; but this may have arisen from a com-
s. He had had bulbs of *lancifolium* survive the
the ground. *Lilium auratum* is, practically, a
saw the stem of a plant, out of bloom, at Wey-
eleven feet high. It was in a rhododendron bed.
several bulbs in a rhododendron bed, with peaty
d flourished, and he hoped for further improve-
to be very particular as to soil and situation;
lbs have been imported from Japan, but a small
vive. He thought *L. Parkmanni* did not propa-
partook of the character of *L. auratum*.

e of the beauty of our native lilies, but said that
ere he had seen *L. superbum* with eighteen
never cultivated, though around almost every
uld see tiger lilies. He had never found *Phila-*
re than three or four flowers; bulbs the size of
The finest he had ever seen were where the
urnt over. He agreed with Mr. Endicott, that
bridized with other genera. If we could get a
ght yellow, or straw color, it would be a great

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'hiladelphia with from three to six flowers, and *L.*
ı twenty flowers on a stem. A lily from Bermuda,
the same as *Harrisii*, was exhibited before the New
ıural Society, with one hundred flowers on a single
ıot larger than a pea will flower the next summer.
Bermuda, and why it was not introduced here be-
r of curiosity and surprise.

trong recalled Mr. Hovey's experiments in hybridiz-
cifolium many years ago. His beds of seedlings
ɜ examples of success. The *longiflorum*, and sim-
ɜ, however, more practically useful to the florist
n. He had grown *L. candidum* under glass as
ɔes, and by the bushel. The bulbs were planted
ɔrder, and produced six, eight, or ten flowers each
ıd six feet high, with no sign of disease. Perfect
uced on the stems, owing to the uniform humidity
re. This species is subject to blight, which appears
r a fungus before blooming. He was at E. M.
ıse in Natick the day before, and saw thousands
ıts of *L. Harrisii*. There was a bank in flower of
inches high, in pots, and as strong as *L. longiflo-*
re from bulbs the size of a pea; every little scale
and yet this small size flowers abundantly, and it
uld displace *L. longiflorum* for florists' purposes,
ɜ too large.

anning had cultivated sixty species and varieties
ımboldti, a Californian species, grew three or four
ɔoduced eight flowers. *L. Thunbergianum*, or *ele-*
l color, but the easiest of all to grow. They are
ɔrders, as they flower low down, and make a bril-
Ie had seen *L. Canadense* with the leaves both in
nate, and some stems with thirteen or fourteen
the edge of a meadow where the soil was moist,
ɔuld not settle. *L. superbum* increases rapidly,
nost every soil. He had seen but little difference
L. longiflorum. His only success in hybridizing
immature flowers of *L. Pyrenaicum*, having only
le, which he hybridized with *L. Canadense*, and

ght said that his experience with the *Lilium*

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iture on the Malden Poor Farm. Mr. Stiles, who harge of the farm, took up the bushes around the l it up, and it had the effect of adding to the vigor spreading the top, so that the ends of the branches speaker had thought of getting the tree photo-

lovey said that the tupelo tree is not very common. or four in Cambridge, some of them from sixty to ars old. They have round, umbrella shaped heads. that the growth is sometimes upright and some- umbrella shaped. Mr. Hovey has a tree twenty- hich he raised from seed in 1862. The tupelo is tree but somewhat difficult to propagate and trans-

as referred to the Committee on Large or Interest-

ced that on the next Saturday, the subject would Kinds of Fruits for Export," to be opened by E. man of the Fruit Committee.

BUSINESS MEETING.

SATURDAY, January 27, 1883.

meeting of the Society was holden at 11 o'clock, n. FRANCIS B. HAYES, in the chair.

eport of the Committee of Arrangements was tary, accepted, and referred to the Committee on

aturday, February 3.

EETING FOR DISCUSSION.

BEST KINDS OF FRUIT FOR EXPORT.

hairman of the Fruit Committee, was appointed ;, and said that fruit was commonly looked upon

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vey. Few persons would grow a greater number
sale here.
shown conclusively that there are no better apples
those raised here. Canadian buyers have been in
y, buying up all that could be found. The demand
ıat there is no such thing as glutting the market,
s of a surplus which, in some years, has made the
sance. Last year was the bearing year, but the
yet large enough to glut the market, but for the
ɔort. The export trade has grown up in the last
s begun by New York growers. In 1878, 300,000
ɔrted; and in 1880, 1,400,000 barrels. Last year
ɛre exported, because they were not to be had.
l the time of glut. Probably nine-tenths of the
are Baldwins. One can hardly make a mistake
;rafting this variety. It grows vigorously, bears
size and quality, and as a keeper is second only
Russet, and it is at home here in its native State.
that the four or five best apples for exportation
New England, and several of them of Massachu-
ın this State have the advantage of being located
ɒping port. There are thousands of acres suita-
within twenty miles of Boston, which can be
ollars per acre. The best land is not required;
and rocky land, if you can get the plough into
; orchard sites. On southern hill-slopes the trees
to the light and air, which give color and beauty

at it takes too long for apple orchards to come
when the speaker was thirteen years old, he per-
to plant some apple trees, and assisted him to do
who passed, said they were doing a good work
though the trees had a life and death struggle
; father lived to pick from ten to fifteen bushels
The speaker knew an orchard of a hundred trees
ch bore one hundred and twelve bushels the
ground between young apple trees is not lost,
many peach trees may be set between them,
ɔm for eight or ten years, and, if as productive
years, will pay for the cultivation of the whole.

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ly from seventy-five to eighty per cent are of that
universal bearer, and the only one which can be
cient quantity to send a thousand or two barrels.
dds and ends are not wanted. Sometimes all the
not delivered; if not landed in time, the sale is
s are held three times in a week. The extensive
dates from the time when it became apparent that
ould raise all the apples needed there for home
hen the New York growers began to ship to
about ten years ago. Last year there was not
as in some years. Some of our apples are sold as
. The speaker supposed that some dealers in
d apples directly from the exporters here to sell,
der from one of the largest dealers here, and the
re received they were sold at auction. Apples
be packed well. High colored and medium sized
be selected and placed in the bottom of the
as possible, and with the stems all down; the
l be filled up, being shaken as often as a basket
should be filled half an inch above the chimes,
ed in by means of a screw. The barrel is then
arked on the faced head, so that when opened
and uniform surface. Apples thus faced will
five to fifty cents per barrel more than those not
ery little demand for sweet apples. Apples are
successfully in warm weather, when later ship-
eather will decay. Sometimes a cheap grade
ally higher price than the first quality.
ell said he had heard of the middle of a barrel
inferior apples, or with a pumpkin.
hat such things did sometimes happen.
id known of apples being sold here to dealers
hipped directly to Liverpool as Canadian apples.
spoke of a young man who went to Kansas
times about twenty-five years ago, and who
which he raised from seed, and from which he
r ten thousand bushels of apples, which netted
bushel. People come with teams from all the
t them.
id that he planted the seeds of his orchard in

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tation. There are two other important russet apples
ably eligible varieties for export, — the Red Russet
Russet. The Red Russet was found by Mr. Cole to
the Roxbury; the flesh is firm, and the tree is more
the Roxbury, and the crop may bring more money.
set is exceedingly fine; Mr. Cole thought it the
of all the russets. The speaker had known a barrel
ens sold for ten dollars, and they almost always
ars. The Red Russet is not as good a table apple,
grafted his with the Hunt Russet, which is fair and
l will probably bring more money than either the
ry Russet. The Baldwin, Roxbury Russet, and
Greening have heretofore formed a kind of trinity,
l together for a great length of time. The Snow
edingly fine quality, and is raised in great quanti-
and though not late keeping, perhaps ought not
ed by the exporter. The Hubbardston Nonsuch
ebruary, but then becomes rather mealy. The New
rg is very fine, but whether it could compete with
ther doubtful.
said that the Snow apple will succeed only on limy

herell quoted from the Report of the Commissioner
in Canada West, in regard to apples the most
neral cultivation there. The Baldwin is one of the
The only objection to the Rhode Island Greening
he Esopus Spitzenberg was favorably spoken of.
set is good, and the Roxbury Russet the longest
ibston Pippin is a shy bearer. The Red Canada
Old Red Nonsuch) is a long keeper. The Swasey
licious; of a handsome cinnamon russet, and the
It has brought twenty-five dollars per barrel in
now apple has spotted badly; it is red, with very
e King of Tompkins County was well spoken of.
ippin brings the highest price in the London mar-
fered from other varieties having been sold under
Pell had grown an orchard of this variety on the
nd shipped the fruit for years. Tloman's Sweet
Colored apples are more popular than those not
the Williams's Favorite is the highest colored of
ty is not extra.

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uld keep apples a month later than ordinary, and a
ıge is that they must be used as soon as they are
rs ago his firm had three or four thousand barrels
ɜets stored every year to put on the market late in
w very few are stored, owing to the improvement
ɔn apples, which formerly were shaken off and
ɔw are gathered and packed properly. Since the
ey farmers have gone south and improved the
it and vegetables grown for market. The apples
ıre known as May apples, and those ripening in
les.

are gave an account of a fruit evaporating factory
[ass., which he had examined. The fruit pur-
windfalls, and the quantity is ascertained by
. The apples are first pared and cored with
ɔy boys and girls, and then placed in drawers of
ɡh which a current of air heated by a coal fire
The beautiful whiteness is caused by placing
ɔath before they are evaporated, which not only
oses the pores so that they remain white. This
very disagreeable to those engaged in it. The
'all apples is from fifteen to twenty-five cents
ɔfuse of the apples is grated and made into
is quite profitable, and affords an outlet for
raised in the neighborhood. Squashes are
ɔ. Mr. Ware thought it evident that the de-
ɔing to be unlimited, and as many old orchards
nd few new ones are planted, unless a change
ly of home grown apples will not equal the

ıe Committee on Discussion announced that
Dr. James R. Nichols would speak on the
nures in Horticultural Work."

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d in a considerable number of vegetable structures, but clearly understand *how* they are capable of exerting so l pleasurable an influence upon the palate, not only of ngs, but upon animals as well. As we walk through is and orchards, and watch the growth of the luxuriant f the soil, we do not often stop to consider the intricate erful chemical reactions which are unceasingly taking everything that springs from the earth upon which we We place the luscious ripened fruits upon our tables, and of them with deep sensual gratification, but we do not sider the origin and nature of the complex agents which iem so acceptable.

nse of taste is in some respects the most mysterious and ul of all the senses. If the sense of touch is, as seems , the parent sense, or the primal avenue through which is able to assert itself, it must be that taste was the next cessary sense for man's elevation and protection. All we bout it chemically or physiologically, is that a delicate net- nerves ramifies through the tissues of the tongue, and in ding or adjacent parts, and that they have the functional perform of conveying to the "central office,"—the brain,— ons as regards the nature of what is brought in contact. If mine into the chemical or physical character of these nerves, not find that they are in the slightest respect different from tic or auditory nerves which transmit sensations so absolutely . They are the same in color, structure, and chemical con- ion; but how different their office! Nature has fixed limits ir fields of investigation, and however anxiously we may re, we cannot take a single step over the boundary line which es the known from the unknowable. We must content our- s, therefore, with the act of bringing substances in contact the little telephonic nerve conductors of the mouth, and per- them to inform the interior man, whether they are noxious, or xious, agreeable or disagreeable, and not ask *how* the messages conveyed.

Substances characterized by sweetness, are assumed to con- n an organic product called sugar, and, as a class, vegetable uctures do contain it in some one of its forms. There are, wever, a few substances which have a sweet taste not due to gar. Acetate of lead is an example afforded in the mineral rld, and glycerine is a sweet liquid, the base of fatty acid com-

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, in grasses, we have one kind of sugar, called
he sweetest variety; in grapes we have another
lled *dextrose* or *glucose;* in apples and other
another, called *fructose* or *levulose*. In melons
hich is nearly pure sucrose, or cane sugar. We
amination not only that sugars differ widely, but
doubtless beneficent reasons, the Supreme Intel-
permitted all fruits and plants to be sweetened
egetable monstrosity called a beet, which is hidden
nlight and the air during the whole period of its
e found juices which hold the most noble and valu-
gar known to man. The crimson tissues of this
e snow-white sugar which graces the tea tables of
princes of continental Europe; and millions of
eir way into commerce, always commanding the
The humble, earthy beet, can hold up its head in
s sweetness is contrasted with that of the petted
occupies the foremost place among our delicious
grape is sweetened with glucose, an ignoble form of
he chemist can make in the laboratory, and its pro-
not require the employment of costly or rare mate-
if it lessens our respect for the tempting fruit of the
ith must be told. The chemist can make the sweet
grape from old cotton rags and old newspapers; and
ment does not indicate a sufficiently low origin, I have
ark that it can be made from common sawdust as well.
has not yet been able to number among its triumphs
tion of the sugar of the beet, the maple, or the cane.
eet principle of fruits, other than the grape, cannot be
n the laboratory. It is a mixture of at least two forms
— sucrose and dextrose, — in varying proportions, as is
the tables on page 51.
urious and mysterious is this plan in nature, of delicately
the taste of our noble fruits, so as to produce a sense of
iest enjoyment in their use. In some fruits we find the
exist in its lowest modified form; but this is not due to a
g of the amount of the sweetest sugar, but to the presence
ntirely different kind. It is probable that the peculiar deli-
vor and taste of the grape could not be secured by any
ment of quantity of sucrose or cane sugar, or by any mix-

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tures. It requires glucose, pure and simple, to act in conjunction with the delicate acids, in order that we may have this fruit in its highest perfection. The watermelon would not be the fruit it is if it had not the capability of manufacturing cane sugar in large quantities; neither would the apple, the peach, the cherry, the strawberry, or the pear be what they are, if the plants and trees upon which they grow had not the power of bringing into play a subtle chemistry, by which is produced a mixture of distinct forms of sweets which no art of man can imitate. If there was in nature but one kind of sugar, the number of choice delicacies in our gardens and fruit orchards would be lamentably small.

But nature does not, in the bestowal of her fruits, spontaneously, or of her own free will, sweeten them for us so acceptably. What are designed to be luxuries and the most highly prized forms of food, she ordains shall be bestowed only through the exercise of labor, care, and skill, on the part of man. No one of the fruits in its wild or native state holds any considerable quantity of sugar of any kind, — not enough to make it acceptable to the taste, or fit it to serve as food. It is only by skilful cultivation, by hybridizing, by budding and grafting, that we have secured the sweet principle in fruits. We have, as it were, educated the dumb chemists in the vegetable cell, and fitted them for the work which nature made them competent to perform under man's guidance.

It is indeed wonderful that we can increase or diminish the amount of sugar in any kind of fruit or plant by cultivation. The beet, for example, under ordinary care, will afford from four to six per cent of sugar; but, by scientific and generous culture, the percentage can be nearly or quite doubled. I have succeeded in increasing the sweet principle in apples, grapes, and peaches, by cultivation and proper fertilization, and this, when the principle was originally present in normal quantity. In increasing the sugar, we also increase every other desirable quality in the fruit; for one principle cannot be forced into prominence without being accompanied by all the others.

I will now endeavor to explain by the aid of chemical symbols the nature of the different sugars, and also show the nature of the sweet principle of some fruits. In the arrangement of symbols, table No. 1, I bring to view the atomic constitution of a molecule of sucrose or cane sugar; also that of starch, and the necessary changes to convert starch into sugar.

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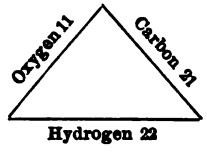
Table No. 1.

. . . . .	C_{12}	H_{22}	O_{11}
. . . . .	H_2	O	
. . . . .	C_6	H_{10}	O_5
. . . . .			2
	C_{12}	H_{20}	O_{10}
. . . . .		H_2	O
. . . . .	C_{12}	H_{22}	O_{11}

Table No. 2.

. . . . .	C_6	H_{12}	O_6
y			2
	C_{12}	H_{24}	O_{12}
. . . . .		H_2	O
. . . . .	C_{12}	H_{22}	O_{11}



l	C_2	H_6	O

Table No. 3.

HOW FRUITS ARE SWEETENED.

	Cane Sugar.	Grape Sugar.
berries . . .	6.37	4.98
les	2.10	3.17
s	62	8.42
ges	4.22	4.36
pes (Black Hamburg) .	00	17.26
o. (Concord) . .	00	14.08
o. (Green) . .	00	1.60
lons (Water) . .	8.17	00
lo. (Musk) . .	9.02	00

extrose . . r . . .	C_6	H_{12}	O_6
evulose	C_6	H_{12}	O_6
Fruit Sugar	C_6	H_{12}	O_6

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A molecule of common water is represented thus, H_2O, which means that it is composed of two atoms of hydrogen and one of oxygen. Now to form sugar out of starch we must double the molecule, and this we do by multiplying the starch molecule by two, but this does not give us sugar; it is necessary to add a molecule of water, which gives us in the diagram, sugar, as shown by comparing the resultant line of notation with the upper.

In table No. 2 is shown the composition of grape sugar or glucose, and also how it must be modified so as to change it into cane sugar. We must first double the molecule as is shown, and then *subtract* one molecule of water, and this gives us cane sugar, $C_{12}H_{22}O_{11}$. In the triangle is presented a hypothetical molecule of cane sugar, composed of its constituent atoms, Oxygen, Hydrogen, and Carbon. It is apparent that a substance so constituted must be in a condition of unstable equilibrium, for there is constant tendency to change and form new compounds. Sugar is a substance very easily decomposed, and by the application of heat, a large number of new compounds result. One of these new bodies is alcohol, which is represented by the formula

$$C_2H_6O.$$

An examination of the diagrams will show you how starch is converted into glucose. Starch has the formula as shown,

$$C_6H_{10}O_5.$$

Now if we add to a molecule one molecule of water H_2O, we have glucose,

$$C_6H_{12}O_6,$$

and this is all that is necessary to convert the starch of corn or potatoes into the sweet principle of grapes.

We cannot convert starch into cane sugar, because we cannot double the size of the molecule and force into combination one more molecule of water. If we could accomplish this result, all our crystallizable cane sugar would be made in the laboratory, and the growth of sugar cane, beets, etc., would cease, as the artificial process would supply sugar at cheaper rates.

We can make grape sugar out of starch, because we have discovered a method of forcing one more molecule of water into combination with it, and this gives us glucose.

Table No. 3 explains how several kinds of fruits are sweetened. The percentage of cane sugar and fruit sugars which enters

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peaches, pears, etc., is shown. It will be
es no cane sugar is presented; the sweet prin-
ucose. Of course fruits vary greatly in the
ey contain. These examples are presented as
lysis made with the view of obtaining general
results. Whilst it is possible to increase the
le, and also to modify the hydrated malic acid
ts, it is entirely beyond our power to change the
es, shrubs, and trees by any methods of cultiva-
n yet discovered. I know of nothing more won-
han the persistency with which vegetable struc-
their original bent or design. Trees producing
s, peaches, or vines producing astringent grapes,
aside from their laboratory work, unless by the
scions, or the employment of the knife in other

that two trees growing side by side, from the same
the same air, and precisely alike in external and
re, will grow fruit totally dissimilar in chemical
d physical appearance. If a young sour apple tree
n its trunk, and scions of another kind inserted, it
ly above the point where they are placed. The
ions below continue true to their original instinct,
mes from a sprout it is charged with the acid juices
tree.

ve the bewildering fact brought before us that sap
rough one portion of a tree culminates in the pro-
cess of acid in the fruit; while in another there is
ess of sugar. It is not unusual to observe a newly
d, blossom, and bear fruit the first year. The apple
en times as much as the frail scion which held it up,
l the nutriment necessary for its growth, but the little
anted to an alien limb, will set up a laboratory of its
om the strange juices brought to it, will manufacture
y dissimilar to its companion fruits growing in close

An example of this nature was afforded in my
hen from a scion having a surface for cell action of
square inches, a sweet apple was grown weighing seven
d affording from its juices ninety-three grains of fruit

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We have, however, still more wonderful examples of fruit chemistry in apples which in their own structure exhibit sectional differences of composition, one-half or one-quarter being saccharine, the other portions being extremely acid, and having the sectional lines distinctly drawn. I have seen a basket of this remarkable fruit in which the divisions were in all proportions, but each one unmistakably marked.

I have brought to view these interesting examples of plant chemistry, not with the supposition that they are new to you, but simply to awaken inquiry and stimulate research, that we may, if possible, obtain new light upon some most perplexing problems.

The sap of plants, which is largely water, may have but little agency in influencing those changes which result in the production of the sweet principle in fruits. Cell action, controlled by the actinic solar ray, is unquestionably the source or active agent in the chemical changes which accompany vegetable life. The vast volume of water, which in the form of sap courses through our fruit trees, cannot, however, be lightly regarded. It brings to the cells the elements and molecules of inorganic material, which enter into the reactions involved in plant chemistry; and, it is only through the sap that we can beneficially influence the products of our orchards and vineyards. It is probable that we do not often stop to consider the immense preponderance of water in our fruits, which is shown by analysis.

Several years ago, I made analysis of several varieties of apples, with the view of determining their exact food value. Among them were the Tolman's Sweet, Hubbardston, and Baldwin.

The apples selected were in different stages of ripeness, the Hubbardston being more advanced than the others. Very important modifications are produced by the chemical changes in apples as they approach the stage of maturity, or the period when they become mellow and ready for the table. The amount of sugar increases, and the hydrated malic acid decreases, or disappears altogether in some fruits. The cell walls of the structure become softened, and readily break down; oxidation begins at any point where imperfection or abrasions in the skin occur. The amount of nutritive material is to some extent increased in ripe apples, and they are much more easily digested and assimilated by men and animals.

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ɜ analysis, were as follows:

HUBBARDSTONS.	
. . . . .	88.57
ectose gum, and sugar, . . .	11.27
. . . . .	0.16
	100.00
TOLMAN'S SWEETS.	
. . . . .	88.29
sugar, pectose gum, etc., . . .	16.54
. . . . .	0.17
	100.00

ıldwins gave 87 per cent water, with a less amount and sugar than the others, and considerable free acid. The sugar varied from about 5 per cent. in › 9 per cent. in the Sweets. The total insoluble ing skin, seeds, pectine, ash, etc., averaged about

s show how largely preponderating in apples is the ın amount is about 85 per cent. of their weight. ree bearing 30 bushels (46 pounds to the bushel), he fruit about *half a ton* of water. The nutritive ɜs, is, of course, not in the water, but in the solids,— sugar, and gum. In a bushel of Hubbardstons, there pounds of soluble nutritive material at the period of Tolman's Sweets, about seven pounds; in Baldwins, ; and this material will vary to a considerable extent ugar is a carbonaceous substance, and nutritive in a ɜtion. It is mainly useful as fuel, and by oxidation ıaintain animal warmth. The albuminoids are nitro- therefore are foods proper; the gum is also a food. minoids are seldom found above half of one per cent. in ɜs, and this would give us less than four ounces in the sugar, we find in a bushel about two and a half pounds its, and considerably more in sweet.

alysis of apples as presented, shows that the amount of , or absolute food they contain, in proportion to bulk, is his research extended over considerable ground, much of ıot pertinent to this discussion. I will simply say that, as apples as food for animals, my practical experience in

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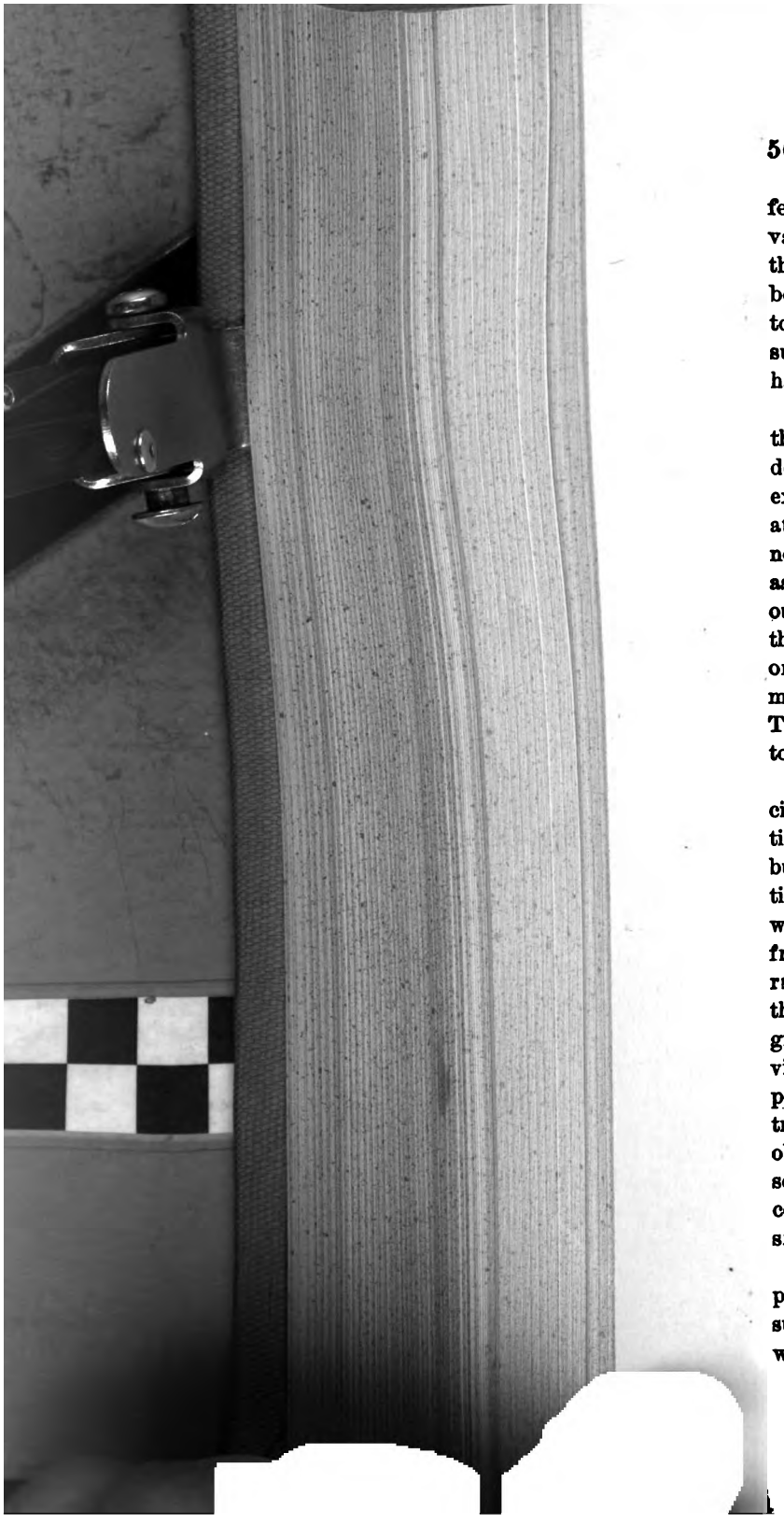

feeding them confirms the results of analysis. They are of some value, and when fed in connection with meal, serve to give zest to the appetite and keep animals in health. The riper the apples the better the results, and they should not be fed in a half-frozen state to milch cows, as this course will invariably cut short the milk supply. If they are cooked by boiling, their value is much enhanced, as more perfect digestion results.

In the cultivation of fruits, we should not be misled by the fact that they do not, in themselves, exhaust soils, except in a slight degree. The constituent principles of fruits are, to a large extent, organic, and, therefore, derivable from water and the atmosphere. Sugar, the important principle of all fruits, takes nothing from the soil which has money value. The albuminoids, as has been shown, are very sparsely distributed through most of our fruits, and as they hold the nitrogenous element, it is seen that nitrogenous manures are not needed in large quantities in orchards or fruit gardens. Analysis of the grape shows that in most varieties nitrogen, as supplied in manures, is not necessary. The results of analysis in the case of all fruits, have been satisfactorily confirmed in my practical experience.

I have never found nitrogenous manures to exert marked specific influence upon any of my fruit crops, and years ago I discontinued their use. Fruit trees, shrubs, and vines need nitrogen, but the spontaneous supply in soils is fully equal to the comparatively small amounts required. There is one mineral element which may be said to be the pabulum *par excellence* of growing fruits, and that is potash. It is certainly true that we cannot raise perfect and desirable fruits if we withhold this element from the soils of our orchards. When it is considered that we influence growing fruits only through the act of rendering the tree or vine vigorous and healthy, and when we further consider how much potash is required to maintain a normal condition in large fruit trees, which are constantly under the pruning saw and knife, we obtain some correct views of the importance of this agent in soils. Both the fruit of the vine, and the vine itself, are great consumers of potash. The same may be said of most of our small or soft fruits.

It is not usually advisable to attempt to reclaim and render productive a worn out grape border, but if any satisfactory success is attainable, it is only through a plentiful supply of good wood ashes and bone meal.

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o, I discovered that it was best, in preparing
ape houses, to use plenty of wood ashes, and to
g materials in successive thin layers, rather than
of a mixed heap. I have one border prepared
is made up of sixty alternating strata of differ-
stances, and they have remained undisturbed for
he fruit product from this border has been uni-
in quantity and quality, from year to year, and
been necessary.

at the subterranean feeders of the vine will follow
signated as vegetable instinct in procuring food,
for it than is necessary. If we place phosphoric
sh, and nitrogenous salts in distinct layers, each
e of good soil, we place our vine roots, as it were,
ead with many dishes, and unerring instinct will
ng what is needed to keep the vine and fruit in the
ndition.

ne qualities of the Black Hamburg and Frontignan
greatly improved by having at hand plentiful supplies
nd wood ashes is the best possible source for this
erman chlorides are next to be preferred, but they
eyards, meet the desirable results supplied by ashes.
ry German Kainit, as found in commerce, I class
isons in the list of assumed vegetable foods. I have
to observe injurious results in the use of these salts
Common salt is not a manure, and we may as well
ce for all.

experience of nearly a quarter of a century in conduct-
rimental farm, I have reached the conclusion that the
our fruits, and most of our cereal crops, is best pro-
ne use of a fertilizing mixture, made up of finely ground
e and good wood ashes. This mixture I arranged and
led twenty years ago, and I find after persistent soil
ts, extending over many years, that I am using it more
ever.

hod of preparing it is, to take six barrels of pure raw
r, and twelve of good wood ashes, and mix them well
upon a shed floor, adding, during the mixing, twenty
f water and one barrel of gypsum or plaster. This mix-
be allowed to stand a few weeks, or it may be used at

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once if needed. If permitted to stand long, it heats from chemical action, and the freed ammonia is in part fixed as a sulphate by the plaster, but not all of it.

For fruits of every kind I know of no better fertilizing material, and as it supplies every needed element of nutrition, its effects are remarkably persistent and immediate.

But, gentlemen, I must detain you no longer. I cannot think that I have presented anything new, or of special value to a company so intelligent and experienced as this. There are old facts, and forms of knowledge which it is well to call up for consideration occasionally, as we often find that the good and excellent have been neglected because they are old.

Dr. Nichols added, in further explanation of the chemical composition of sugar, that it is a compound of pure water with carbon —absolutely pure water with the elements of a diamond. It is a very unstable compound; when placed over the flame of a lamp the water escapes, and the carbon is brought to view. A molecule of sugar is like a watch spring wound up; the struggle between the chemical forces is towards change into lower combinations. A potato is but a mass of starch, and can be changed almost entirely into sugar. The change of starch into sugar requires the presence of diastase, which is a starch solvent apparently provided for a specific purpose. Sugar cane, a few weeks before it is ripe, has no sugar; after it is mature it has no starch, and the case is the same with most fruits. The production of sugar is not exhaustive to the soil; the refuse from the manufacture of beet sugar returns to the soil all inorganic substances taken from it. In strawberries there are three kinds of sugar, two of which are uncrystallizable and one crystallizable. Most pears contain uncrystallizable sugar. The orange will grow in sand with the addition of potash and lime. The Black Hamburg grape, when ripe, has about seventeen per cent of glucose, and its juices are most agreeable though we cannot tell precisely why. Changes in fruits go on with great rapidity at the time of ripening. Beet sugar is as sweet as cane sugar. The chemical composition of milk sugar is the same as that of cane sugar, but it has only one-third of its sweetening power. We have in the sugars interesting examples of isomerism; bodies, so far as we can distinguish, constituted alike chemically, but having very unlike physical properties.

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so stated that wood ashes are often adulterated; from Canada which contained by analysis nine sh, but the next lot had less than four per cent. discovery of the Stassfurth potash salts as provi- ply is enormous, millions of pounds being pro- r. In kainit there is so large a proportion of t it is apt to kill grass. The chlorides of potash with phosphates and nitrate of soda and extended as to form composts closely resembling stable ncentrated form. The Stassfurth salts are now s country and used by official analysis made at the these determinations are usually safe and reliable.

Discussion.

etherell said that the lecturer had stated that salt is in anure. This the speaker doubted, but while he did stated his observation as follows: A farmer in Ware, s contiguous to the right bank of Ware river, has rye on a piece of light soil for ten years, more or o stable manure, but has applied annually a top-dress- non salt of an inferior grade, called "refuse salt," n Boston for that special purpose. He sowed it on, a little plaster, broadcast at the rate of three bushels Visiting this farmer annually the opportunity for care- ation for years was enjoyed. The crop of rye was the straw was clean and white when the crop had the grain was of superior quality and the annual good. The lecturer was asked by Mr. Wetherell to his phenomenal observation in growing winter rye upon very poor in humus. Similar experiments were made by in Hardwick on a farm also contiguous to the right bank river, not only with winter rye but other farm crops, t produced marked effects as a "fertilizer," as he called it. ichols said that we cannot obtain uniform results on all The Ware farmer obtained his crops independently of the f the salt. There are many farmers in Massachusetts who od rye crops on light silicious soils for many consecutive vithout the use of a spoonful of salt or any fertilizer. Too attention is given to apparent variations in known or fixed

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principles. Too much time is taken up in farmers' meetings in discussing trivial and imperfectly conducted crop experiments. The principles of agriculture should be studied.

George F. H. Markoe said that he had seen raisins containing crystallized glucose, and specimens of beautifully crystallized anhydrous glucose which were manufactured in this country, and which is now being produced in a large way under a patented process. The glucose of the market is generally impure, but any pure glucose can be crystallized from its alcoholic solution.

Dr. Nichols said that the glucose of dried raisins is never crystalline, but by evaporation of water amorphous lumps are formed which the gentleman had mistaken for crystalline bodies. He had seen the most recent imported specimens of glucose, but none of them were crystalline. No one has yet succeeded in crystallizing glucose in a practical way.

Hon. Marshall P. Wilder said that he was delighted with Dr. Nichols's lecture; he spoke of what he knew, and there is no man better capable of instructing us. The facts given by him in regard to the use of ashes and bone dust are extremely valuable, and he advised all the cultivators present to get all they can. Sugar of different kinds is one of the most healthy substances. It is possible to produce sugar on our own soil. It has been stated that sorghum sugar cannot be crystallized, but it is now a settled fact that it can be, and wherever sorghum will ripen its seed, sugar can be made. The seed is worth nearly as much as corn, and the refuse of the stalks is valuable for the food of animals and the manufacture of paper.

Professor Markoe said that all chemical action is a series of substitutions, in which might makes right, or the stronger agent replaces the weaker one. The action of caustic lime liberates ammonia gas from ammoniacal salts. If sulphate of ammonia is mixed with caustic lime, the ammonia is liberated, and sulphate of lime is formed. Sulphuric acid added to fertilizers will fix the ammonia. The so-called rectified guano contains sulphuric acid, which has been added in quantity sufficient to transform most of the ammonia into sulphate of ammonia.

Dr. Nichols said that not until lately had he been able to purchase the Charleston phosphate nodules ground fine enough for making fertilizers, but now an impalpable powder can be obtained, and he had used it with considerable success. It makes a low-

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lizer. The value of nitrogenous manures is thought we had considerable to unlearn, espe- o animal substances holding potential nitrogen. blood and animal tissues of uncertain value, and y and long-continued soil experiments are needed ue on a reliable basis. . .

es spoke of Dr. Nichols's paper as most interest- is description of the little graft as a factory work- esses of nature. The lecture was as eloquent and sermon, and he wished thousands could have heard o glad to hear from Professor Markoe, and to have ists bring the latest results of their science before, d it was pleasing to see the kindness between them, he reception accorded by each to the different views In behalf of the Society, the President returned ts to Dr. Nichols for his interesting, eloquent, and dress.

BUSINESS MEETING.

SATURDAY, February 10, 1883.

rned meeting of the Society was holden at 11 o'clock, nt, Hon. FRANCIS B. HAYES, in the chair.

sident read an invitation from the Imperial Russian ral Society, to attend and contribute to the International of Horticulture and Congress of Botanists and Horti- to be holden at St. Petersburg, May 17–28, 1884, in n of the twenty-fifth anniversary of that Society.

Marshall P. Wilder moved that a delegation be appointed air to attend the Exposition and Congress, with power nt substitutes. The motion was carried, and the Chair d Mr. Wilder, E. W. Wood, and William H. Spooner s.

Secretary read a letter from Francis Darwin, Cambridge, d, expressing thanks, in behalf of the family, for the testi-

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monial to the memory of his father, Charles Darwin, adopted by the Society at the meeting on the 30th of December, 1882.

Adjourned to Saturday, February 17.

MEETING FOR DISCUSSION.

The Best List of Old and New Herbaceous Perennials for General Cultivation; also, Notes on Rare Herbaceous Plants Difficult to Cultivate, and on Improvement in our Native Herbaceous Perennials.

By Warren H. Manning, Reading.

In presenting this subject for discussion, I will reserve the List of Plants for the close; and, in opening, will make some mention of the Cultivation of New and Rare Plants.

It is always safe to follow, as nearly as possible, the conditions in which a plant flourishes naturally, unless a better method of cultivation is known. In case neither is known, one may be guided to a great extent by the appearance of the plant, which is very often an indication of the soil it grew in, and may give it the treatment that has been given successfully to similar plants. An aquatic or bog plant can usually be distinguished by its large cells and soft, fleshy stems and leaves; a plant growing on dry, sandy or gravelly soil by the dry, harsh feeling of the stems and rock plants are or the large, deep growing tap root. Alpines and long leaves, generally small and dwarfed, and often fleshy, with tap-root. and fine hair-like roots; frequently from a short rootstalk or

There are, of course, many exceptions to these observations, but any cultivator of herbaceous plants, or observer of plants in their native homes, well knows that alpine plants are quite different in appearance, as a class, from bog plants, and bog plants from those growing in sand or gravel. The lines are very often quite clearly marked between whole families of plants, and it is often a good way of determining the habit of a plant to find in what family it belongs. For example, the hardy North American representatives of the Orchid family nearly all grow in moist, shady situations in woods or meadows, in a peaty or leaf-mould soil; the Pink family

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ined, light soils; the Composite, Mint, and Pea fam-
exceptions, in any good soil; and the Iris family in
ations.
i that will adapt themselves to nearly all conditions
easy to cultivate; it is those requiring special con-
ess that we shall have the trouble with, and the
as a class, contain the greater number of these;
ery beautiful, and well repay all trouble spent on
success. This success must be gained by patience
e under repeated failures.
gardeners said that Alpine plants could not be
open ground; Mr. Robinson believed any of the
ld be grown if proper methods were used, and he
vation. His book on "Alpine Flowers" will show

not try to grow the same or similar plants by his
ough we may get many useful hints from it, for our
different from that of England; they do not have
summer sun, nor do they have the frequent and
from the freezing temperature of night, to a hot,
the morning, without a veil of mist to modify its
h is so destructive to our herbaceous plants. We
on the rockery as they can. Mr. Falconer, of the
n at Cambridge, who has had great experience
plants, both in England and in this country, says
e plants that he has grown here do much better in
than in the rockery. They must not be in such
allow the water to settle about them, and it is best
vith stones to keep the soil about the roots moist
temperature.
ve depend on England or Europe for Alpine plants
l under the conditions presented here. We have
Alleghany, and Rocky Mountains to draw supplies
traveller in these mountains will testify to the
Alpine flora. You will very likely say that these
e obtained; but I have no doubt that those who
lection of herbaceous plants for sale, and who have
with collectors in all parts of the country, will get
s is a demand for them.
; classes of plants must be taken in hand by some

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amateur who has a sufficient love for the work, and sufficient interest in the results to be gained, to carry his experiments to a successful issue. Those in the nursery business, as a usual thing, can only grow such as sell readily at a profit.

The above remarks on the treatment of Alpines will also apply, so far as the water settling about the plants is concerned, to succulents, such as Sedums and Sempervivums, which are also Alpines, for if it does, it will rot the plant; but they will grow in very poor, dry soil, or on rocks in most barren and unpromising spots. In fact, these are some of the most available and successful plants for covering our rockeries.

Sand plants will, as a usual thing, do much better on their own soil than in a richer loam; for if the soil is rich, they are liable to make a strong growth of foliage at the expense of the flowers, and the plant is very likely to be killed by the first hard frost, while, if it were grown in a poor, sandy soil, it would blossom freely, ripen its growth early, and withstand frost.

If a plant is not successful in one spot, move it to another; it is surprising to see what a little difference in soil or position will do for a plant. Often a position where no perceptible difference from the former locality is to be seen will make all the difference between success and failure.

Most of our native plants are improved by removing them to cultivated ground, where they are protected from the inroads of stronger growing plants or weeds, that would kill them out under the same conditions of soil in a wild state. Take, for example, the Trilliums, which will make fine, large clumps in the garden, while in the native woods they are seldom found with more than a single bulb in a place. The Jack in the Pulpit is greatly improved in the size of the plant, leaf, and flower. *Aquilegia Canadensis*, or wild Columbine, cannot be excelled in habit of plant, and beauty and abundance of flowers by any other cultivated Aquilegia. *Lobelia cardinalis*, or Cardinal flower, flourishes finely in all good garden soils. The Wild Calla, Lizard's Tail, and many others, are greatly improved by being cultivated. When established in cultivation, these and others should be improved by the same arts of horticulture as have brought the beautiful Phloxes, Larkspurs, and Hollyhocks to their present perfection.

In making a list of the most desirable herbaceous perennials for general cultivation, we must see that there is a sufficient variety

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e flowers at all seasons; also, we should choose
bit of growth, and thoroughly tested. It would
ive a list that would be best for all localities, but
nts as are really desirable in the ordinary flower
useful to those wishing to make a selection.
ts named, such as Tulips, Phloxes, Pæonies and
orthy of exclusive attention, and it would be a
easure and instruction for any one to experiment
ver, in connection with his general collection; to
ty, and improve it and its varieties as much as
lizing, selecting improved seedlings, and propa-
it if one did not wish to do this, a few of the
select varieties should be chosen to represent it.
arks and suggestions made in this paper, and also
, will be thoroughly discussed by those present.
y desirable plants might be added to the list, but
risk of making it too long.

SPRING FLOWERING PLANTS.

lis,	Dodecatheon Meadia,
,	Erythronium Americanum,
lsatilla,	Iberis sempervirens,
nadensis,	Mertensia Virginica,
vernum,	Phlox reptans,
najalis,	" subulata, and varieties,
variety,	Polemonium reptans,
mia,	Scilla Sibirica,
elytra) specta-	Tulips in variety,
	Viola pedata, and varieties.

SUMMER FLOWERING PLANTS.

rmica fl. pl.,	Gypsophila paniculata,
rulea,	Hemerocallis graminea,
rysantha,	Iris Germanica, and varieties,
berosa,	Platycodon grandiflorum, and varieties,
Carpatica,	
ruber, and	Pyrethrum roseum, and varieties,
ncolata,	Spiræa Filipendula,
in variety,	Iris Kæmpferi, and varieties,

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Lilium auratum,
" candidum,
" elegans *var.* incomparabile,
" superbum,
Lobelia cardinalis,
Lychnis chalcedonica, and varieties,
Lychnis diurna fl. pl.,
Pæonies in variety,
Papaver orientale,
Phlox decussata, and varieties,
Spiræa lobata,
Ranunculus acris, fl. pl.,
Veronica amethystina.

Autumn Flowering Plants.

Aconitum Japonicum,
Anemone Japonica,
Cassia Marilandica,
Funkia Japonica variegata,
" subcordata,
Gentiana Andrewsii,
Helianthus orgyalis.
" decapetalus,
Hibiscus flavescens,
" Moscheutos,
Lilium speciosum, and varieties,
Rudbeckia nitida.

Discussion.

Dr. Henry P. Walcott was called on, and said that the only class of hardy herbaceous plants that he had cultivated were the native Orchids, with which he was quite successful in an artificial bog in a brick tank. The Oregon variety of *Calypso borealis* had flowered two years, growing in living sphagnum. *Habenaria ciliaris* also flourished. *Rhexia Virginica* grew so vigorously as to become a perfect weed, and had to be taken out, but it is so beautiful that he will prepare a separate bed for it.

Mr. Manning said that the hardy Orchids are very interesting, but not suited to general cultivation. In the Botanic Garden at Cambridge, the Cypripediums are successfully cultivated. *Liparis liliifolia* has improved under cultivation, having several more flower buds than when growing wild. A friend has a border of *Viola pedata* to his garden path, which blossoms twice a year.

Edward L. Beard said that the Narcissus is one of the most neglected plants. *Narcissus poeticus* is generally badly grown; it wants thorough care and cultivation, and will repay it. A friend of his had a large ravine running through his estate, with bare and unsightly sides, and Mr. Beard suggested to him that he should make pockets in the sides and fill with soil and plant narcissuses, and along the sides of the brook which ran through the ravine,

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similar bulbs. He planted two thousand bulbs there, and was highly pleased with his success. The double *Narcissus poeticus* has a tendency to drop its buds; which is caused by leaving the plants, as is generally done, until the soil becomes exhausted. Constant feeding, and occasional shifting into new locations must be attended to. He had been very successful by giving fresh soil, and had produced astounding development. The long tubed species of *Narcissus bicolor*, of which the Emperor and Empress are two of the finest varieties, amply respond to any care given them. They are quite hardy; the speaker grows them on top of a clay bed. They do not seed, but increase from offsets. Some of the varieties will not grow here, but there is an ample list that will. The Lily of the Valley, also, is generally left to take care of itself, but if they are transplanted, and the soil is replenished, they will give astounding results. The same mistake is made with many herbaceous plants. The new Double Pyrethrums are most desirable; they require good culture and division of the roots. Some herbaceous plants will live along without much care, but the finer kinds require as much as a bed of roses. The general tendency is to neglect them. The speaker is very fond of Delphiniums. In England, the beautiful *Iris Kœmpferi* dies out, but it is constant here, particularly in damp localities. The *Anemone Japonica*, of which he prefers the white variety, may be placed in the foreground of useful plants.

Hon. Marshall P. Wilder spoke of the old hardy perennial double Candytuft as having been so neglected, that ten or fifteen years ago it was introduced as new, and sold for a dollar a plant. It is very desirable.

Mrs. H. L. T. Wolcott said that she lost all her narcissus buds for several years, and in despair she took them up and reset them, and last year every bud gave a flower. The idea that herbaceous plants can be neglected is incorrect. Eternal vigilance is the price of a garden as well as of liberty, to which, in the case of the garden, must be added fertilizers.

Dr. Walcott said there is one plant, the Fraxinella, which will flourish, year after year, without removal. He has them fifteen or sixteen years old, and he knows a plant seventy-five years old which flourishes as well as ever. It is the typical hardy perennial.

Mr. Wilder spoke of the *Spiræa Sinensis* (known, also, as *Spiræa*, *Astilbe*, or *Hoteia Japonica*,) as one of the most beautiful

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ful of all our native perennial plants. It resembles the fraxinella in the character of the roots and the difficulty of transplanting. At the South Shore he saw clumps as large as a bushel basket along the sides of the roads, and some varieties darker than usual. He tried to dig up some roots with a trowel, but found it impossible. He finally succeeded in digging up a few roots, which were like parsnips, but nearly all grew. It makes no offsets, and the best way to propagate it is to sow the seed where the plant is to stand. It has been cultivated by only two or three individuals.

The herbaceous pæony is everybody's flower. It has been improved by English, French, and American cultivators; it is easily grown, not difficult to increase, and forms a show not surpassed in the flower garden. Many of the varieties are quite fragrant, and some are desirable for that quality. Tree pæonies are now comparatively cheap; plants which would formerly have cost from five to ten dollars, can now be bought for from a dollar to a dollar and a half. Only a few new species of herbaceous plants have been introduced in the last forty or fifty years. The Delphinium has been much improved; some of the new kinds are apt to die off, but such is not the case with some of the old ones like *Delphinium formosum* and the Bee Larkspurs; you can hardly kill them. Some of the old kinds are very stately in growth. We are going back to the cultivation of the dahlia, which went out of fashion some years ago; it is now coming up in the single form. We have been surfeited with double flowers; single tulips are much more admired than double, but double stocks are better than single.

Mr. Wilder agreed with Mr. Hovey as to the importance of restoring the cultivation of the pæony. It seeds freely and is easily cross-fertilized, and everybody can have them. Some of John Richardson's seedlings are equal to any that have been raised.

Mr. Beard spoke of the Everlasting Pea as one of the most beautiful and useful plants in the flower garden. It will scramble over anything, but rocks or a low trellis are best. If the seed pods are removed it will bloom continuously. There are three varieties, the rose colored, pure white, and striped. Like the fraxinella it forms immense underground roots, and wants to be put where it can be undisturbed. It is very useful for cutting. The Gloxinia is not a hardy plant, but he was induced to speak of

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stand the sun, and are not so apt to drop their flowers as the single. They are very deceptive when raised from cuttings; they will go along through the summer, and in autumn no bulb is to be found; only a few roots have been sent out. A shoot which has a growing eye should be used for a cutting; it will not succeed with only a flower bud. He does not shorten the leaf when he plants the cutting.

President Hayes spoke of the difficulty of procuring good seed of improved varieties of flowers. He had seed of *Humea elegans* from which he got not a single plant. He had found seed from Dippe Brothers, of Quedlinburg, Prussia, very satisfactory.

J. W. Manning said that there is much unexplored territory where new species may yet be collected. He never saw such Aquilegias as in the Rocky Mountains, at an altitude of twelve thousand feet. There were other flowers entirely new to him, that were as showy as gloxinias. The atmosphere was so rare that walking was very exhausting there.

E. H. Hitchings spoke of a plant of *Lilium Canadensis*, with fifty-seven flowers, found in Lynn, by a friend. He recommended the cultivation of the native climbing plants, such as *Clematis Virginiana*, *Mikania scandens*, and *Apios tuberosa*.

Warren H. Manning said that the *Apios tuberosa* must be grown in moist soil, as the tubers frequently decay in dry soil. When it thrives, it is apt to become a weed. The *Iris Kæmpferi* is grown by the Chinese in ground flooded once a year. It wants care, and blooms better after dividing.

The subject for the next Saturday was announced as "New and Useful Shrubs, and the Best Method of Propagating," to be opened by William C. Strong.

BUSINESS MEETING.

SATURDAY, February 17, 1883.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

Benjamin G. Smith, Chairman of the Committee on Publication and Discussion, stated that a desire had been expressed by persons

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some confidence, another kind which has given me particular pleasure, enhanced, no doubt, by the thought that no one in this country, except myself, has ever beheld its marvellous beauty, when the first mention of its name is met with a loud guffaw, and the quick remark that that variety was discovered a score of years ago, and was even mentioned by Loudon, though subsequently it was lost. Mr. President, there are no new shrubs, they have all been let out; you have them; our ex-presidents of course have them; the ladies and gentlemen have all got them; we are even on this score and there will be no occasion to raise a laugh at our mutual expense.

Having thus effectually opened the subject, as requested, showing that, with the exception of artificial hybrids in the hands of the originator, there are no new shrubs, it will of course be pertinent to conclude with a few wise directions how to propagate them. First, *get* them, is a rule that will occur to the feeblest understanding. But before entering further upon this part of the subject I will name some shrubs which are not new, but which have merits that entitle them to be more generally cultivated than they now are. It will also be proper to mention the defects of some kinds, which are likely to limit their culture.

The Japan Maples of the *polymorphum* type, may be properly classed as shrubs — at least, in this country, it does not seem probable that they will exceed the usual limit of size of shrubs. There can be but one opinion as to the exceeding beauty of many of these forms. The variety known as *atro-sanguineum*, to which is added *purpureum* (as if the little plant were not already crushed to the earth by the weight of its name), is perhaps the best of all for our climate. But it is greatly to be feared that none of these are likely to prove vigorous. Probably they are hardy enough to endure the cold of our winters, provided they mature a healthy summer growth. The difficulty is with our hot, dry sun. On the estate of Mr. Hunnewell, where they have the benefit of shelter and moisture, they seem to thrive, and are superlatively beautiful. But, on the other hand, it is significant that in the nursery of the Messrs. Parsons, where the stock has been largely propagated for years, we do not find the plants get beyond the frames, into the open ground, to any extent. The general experience is, that they will require such careful nursing as will unfit them for common use.

An Azalea, also from Japan, called *mollis*, might also have been

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called new some half dozen years ago, at least on this side of the water. But that has gone by, though the variety remains in its glory, and I am glad to modify my opinion that it was not hardy enough for open culture. Mr. Jackson Dawson informs me that it endures the climate at the Arnold Arboretum quite as well as the Ghent varieties, and flowers superbly. The Arboretum has a large number of seedlings raised on the grounds, from which we may expect plants every way adapted to our climate. This class is a very important acquisition, and will be likely, if further trial shall prove it to be hardy, to supersede the Ghent type, which, though fine in colors, has not the size and form of flower of the *mollis* type.

Still another Japan shrub is the Red Bud (*Cercis Japonica*), which differs from our American Red-Bud or Judas Tree, in being very much more dwarf, assuming a bush form, and flowering profusely when less than one foot in height. Its tendency is to spread, and I should judge it would never attain a height exceeding a few feet. Its flowers are much larger and richer in color than those of *C. Canadensis*. The specimen which I exhibit was cut from a bush planted in the greenhouse six weeks ago, and is not, therefore, a fair example.

While we are upon Japan, I will mention the large class of evergreen shrubs, known as Retinosporas, or Japan Cypresses. Many varieties of this family are quite hardy in this section, if planted in soils and positions adapted to their wants. The old heath-leaved variety (*ericoides*) is not hardy with me, but *plumosa*, *plumosa aurea*, *squarrosa*, *filifera*, *obtusa*, *obtusa nana*, and *lycopodioides* have all endured exposed positions in my grounds. Though very diverse in form and foliage, they are of great importance for lawn decoration. Probably the golden *plumosa* and the silvery and dewy *squarrosa* would be singled out as most useful and contrasting.

Two years ago I had a row of Tamarix from this same Island of Japan, called *plumosa*. It seemed to me more hardy, and certainly was more erect and plume-like, and richer in foliage than the well-known Indian, African, and German Tamarixes. It so took the eye of one of our prominent landscape gardeners, that he secured the entire row before I knew what he was doing. I have recently learned from him that he lost the entire lot the first winter after planting. I do not regard this as a fair test, how-

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ever, since we remember the killing effect of the early October freeze of that year, which was so destructive to many newly planted shrubs, though quite hardy.

Rosa rugosa, from Japan, a recent introduction, gives several shades of color in flowers, the dark red, called *rubra*, being, perhaps, the best. It is a large single flower, of much beauty when partly open, but the bush has great merit as a shrub, with dark, rich green foliage, very luxuriant in appearance, and crowned in winter with numerous scarlet seed vessels. It is a real acquisition.

I do not propose to take you around the globe and dwell as long in each country as we have in Japan. But suppose we take a single specimen from the inhospitable soil of Siberia, called *Cornus Sibirica foliis albo-marginatis*. This is undoubtedly a variety of the Siberian Cornus, but it may well be doubted whether the sport first occurred in its native habitat. It is probably a garden variety. At any rate, the variegation is very distinct light, with shades of pink in clear contrast with vigorous green, giving a lively appearance to the bush, which is very attractive. It is not as strong in growth as *Cornus sanguinea*, but is still vigorous, and has the same scarlet wood for fine winter effect. I regard it as a very promising shrub.

A new Plum from Persia, called *Prunus Pissardi*, has attracted a good deal of attention at French exhibitions during the past season. It is said to have "splendid foliage of a blood scarlet color, keeping so until the leaves fall down in November, the wood being of a brilliant black color." This is the description given by the introducer, who assures us "this is the finest novelty ever introduced, since a long time." I have not seen the variety, but the awards which it has obtained would indicate that it is worthy of trial. In habit it is said to resemble *Prunus triloba**.

In a row of Silver Bells (*Halesia tetraptera*) I noticed last summer a single plant, about three feet in height, which was as golden in color as the freshest piece from the mint. Of course it was conspicuous as far as it could be seen. I watched it with great interest. In September, I looked for it and it was gone. If I had it today, Mr. President, I would present it as the one specimen of a new shrub. But I fear it will be kept from public view; it is so distinct that it would betray the thief as certainly as a bank check.

*Specimens planted this season give promise that the description will be realized.

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I do not regard the Weigelas with special favor, but the variety *candida* is pure white, and a decided improvement on the straggling growth of *hortensis nivea*, and a real acquisition.

Spiræa Thunbergii deserves general cultivation, because of its graceful habit and foliage, which is pretty enough for bouquets and table decoration. It bears a profusion of delicate white flowers which are the first of the season. *Spiraea ariæfolia* is the most profuse flowering.

The Golden Elder is the most effective plant of this color.

The Purple Hazel is a strong contrast in dark color.

The Cut-Leaved Sumach (*Rhus laciniata*) contrasts strongly in its airy, fern-like leaves, which are very beautiful.

The Variegated Althæa is perhaps the best plant with white foliage. It is vigorous and striking.

Of the light, breezy, snowy-white *Exochorda grandiflora*, mention has frequently been made in our discussions, but not more so than the plant deserves. The same may be said of *Viburnum plicatum*.

The panicled species of Hydrangea is more upright in growth, and of better foliage than *Hydrangea paniculata grandiflora*. Many will also prefer the light trusses of bloom to the grosser masses of *grandiflora*. It is a question of taste, about which we may not dispute.

These varieties are named because they are of comparatively recent introduction, or have special merit and deserve a more extended cultivation. It is quite beyond our scope to allude to such old but admirable kinds as our native *Kalmia latifolia* and *Magnolia glauca*.

But I must not weary you with a longer list of favorites, although no mention has been made of dwarf species, Arbor Vitæs, and other evergreen shrubs of great value for lawn planting. We have a wealth of material, and with the aid of the knife we may increase the dwarf varieties almost without limit. For example, what tropical palm-like luxuriance may be produced by cutting the Ailanthus to the ground and securing new shoots every year or two. The Purple Beech is fine in color when kept as a shrub. Schwedler's and Reitenbach's Maples must be even better than the beech for this purpose.

A few words as to propagating.

The natural method is by seed, and it is the cheapest; but it is

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also the slowest. Where we have plants that bear seed, and can give the time, we sow the seed. But if we are in haste with a new kind, grafting upon strong, congenial stocks gives a great gain in time. The rarest evergreens are multiplied with great facility and very quickly by this process. It is only necessary to start the stocks in pots, and when the sap is fairly moving, to side-graft the dormant scion, and then pack away in a shaded frame in the greenhouse, kept well moistened with sphagnum, and in a few weeks a skilful workman will show you a large per cent of well established plants. The grafting of deciduous shrubs is seldom practiced. They are oftener propagated from soft wood cuttings, taken in July and August, when the wood is in a half mature state. The cuttings are put into boxes having two or three inches of soil at the bottom, and a covering of one to two inches of fine sand at the top. In close, shaded frames, having a slight bottom heat, the cuttings will root freely, and be strong enough to pack away during the winter. The next spring they should be planted out, and will make stocky plants by autumn. A cheaper mode, and one which is effectual for many shrubs, is to cut the hard wood into proper lengths in the fall, then bury it in a dry soil in the open ground in bundles, bottom ends upward, then cover with boards to keep from severe freezing and thawing, and also to shed the rain. In the early spring plant firmly in carefully prepared garden soil. Of most varieties, a large per cent will make vigorous growth.

For those who cultivate plants in greenhouses, the easiest method is to take cuttings in February, March, and April, of the soft wood. These root readily in an ordinary propagating bed, and are ready to be turned out into the open ground in May to make strong plants by fall. Those who raise roses for winter cut flowers, find this last mode the most satisfactory. I have just been trying an experiment in feeding cuttings with a solution of cow manure, just as the callus is formed, and I am convinced that it induces the throwing out of strong, healthy roots, of more substance than we can get in pure sand.

May I say a few words in conclusion in favor of a more general use of shrubs for the adornment of suburban homes? They are peculiarly adapted to give the best effects at the least cost, and with permanent results. There is no danger that they will grow up to overshadow, and shut out air and sunlight and open views from our dwellings. Many of the coarser growing kinds are not

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in keeping with our modern highly cultivated estates, and are to be relegated to the less conspicuous positions, for screens and wind-breaks. But there is left a long list of varieties, in all respects suited to the most cultivated positions, and one difficulty will be in making judicious selections. However much we may prize the flowering quality of shrubs, yet we are to remember that the flowers last, in most cases, only for a week or ten days in the year, and we desire something more than this brief enjoyment.

It is true that we have some shrubs which flower at periods of scarcity, like the Clethra and Hydrangeas in August, and the Althæas in September, and which would, therefore, be indispensable for that quality alone. The rose is also an example of such superlative excellence in bloom, that it can well afford to stake its reputation upon this one point. Still it remains true as a rule that we must seek for effect in form and in grace and luxuriance of foliage, as giving more enjoyment in the aggregate than the brief period of flowering. We must study to harmonize and heighten the effect of colors, of form, and of size. We have a greatly increased range of colors, from the white of the Cornus and the Althæa, the golden of the Elder and the Spiræa, the evergreen of the Retinospora, Arbor Vitæ, and Yew, and the vivid green of the Forsythia, to the dark shades of the Berberry and Hazel. What combinations of light and shade may be made with these materials! Again, we have great variety in size, and character of growth, from the softness of the most delicate evergreens to the rugose vigor of the Japan Rose. What combinations, what striking effects may be produced when these are used in harmony with each other, and with their surroundings! Judicious planting is a great art, but it is an art which insures a great and permanent reward.

Discussion.

Charles M. Hovey, while agreeing generally with the essayist, differed from him in his estimate of the Weigelas. It is true that there is a sameness about them and that they are not equal to some other shrubs, but they are easily grown and cultivated. They are old, having been among the early introductions by Mr. Fortune. The Exochorda was introduced soon after, but is but little known. This and the *Viburnum plicatum* and *V. macrocephalum* were the results of Mr. Fortune's mission. The Japan Cercis is new and

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most desirable for the size of the flowers and the dwarf habit. The essayist was right in his remark that the Retinosporas are one of the most beautiful classes of shrubs. It was well said by the late Henry Winthrop Sargent, that the time has gone by for Norway spruces and trees of similar growth, and that for lots of from a quarter or half an acre to an acre we must come to shrubs, which take but little room and do not crowd and shade. The flowers of the *Forsythia suspensa* are of a brilliant yellow, and appear very early in the season. With the aid of a knife the plants may be kept quite dwarf, or they may be grown into beautiful weeping standards. The Ailanthus may be made very effective in small grounds by cutting down the old growth and training up a single sucker. The leaves are almost as beautiful as those of palm trees. The lilacs are valuable for their dwarf habit. *Magnolia Halleana* is very desirable, as is also a black variety called *M. nigra*. There are many good old shrubs which we should not neglect, and new ones which have no particular value. The essayist has given us much valuable information in regard to propagation, but Mr. Hovey was surprised that he did not mention layers. The Exochorda may be propagated by cuttings of the soft wood and layers of the older wood. Modern invention has brought out many new methods of propagation. The Tree Pæonies were very slow in propagating, and consequently very high priced, until it was discovered that they could be grafted on the roots of the herbaceous species.

Jackson Dawson, gardener to the Arnold Arboretum, read the following list of new shrubs, with comments and descriptions.

Clematis coccinea is a herbaceous climber, growing from four to six feet high, and has small, very pretty, scarlet flowers, blooming all summer. It is perfectly hardy.

Clematis Davidiana is a beautiful suffruticose plant, with flowers of a porcelain blue, borne in clusters, from the middle of July to September, or later. Propagated by root cuttings.

Clematis graveolens is a very rapid growing woody climber, with light yellow flowers in August, followed by beautiful silvery winged fruit.

Clematis Pitcheri is a North American species, with pretty purple flowers, appearing from June to frost. This and the preceding species are easily propagated by seed, which they produce freely.

Magnolia stellata or *Halleana*, from Japan, grows two feet high, and flowers almost as soon as the snow is gone. It is propagated

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by seed or layers, or by grafting on *M. acuminata*. It seems to be perfectly hardy.

Magnolia Thurberi has not yet flowered at the Arboretum, but will probably prove one of the most desirable varieties as to habit, which is neat and compact.

Magnolia Soulangeana var. *nigra* is a new variety, with very deep colored flowers.

Berberis Neubertii Hort. is one of the most promising shrubs as regards foliage, which is large and glaucous green.

Berberis Thunbergii has beautiful foliage, especially in autumn. The fruit is brilliant scarlet, and hangs on all winter, but is not edible. It seldom exceeds two feet in height. It is propagated by cuttings and seed.

Berberis Sinensis, recommended two years ago, has confirmed the opinion then expressed that it is one of the most desirable shrubs of its kind.

A Berberis sent as *Fortunei* is handsome in flower and foliage. It grows two feet high.

Hypericum Kalmianum, *H. prolificum*, and *H. aureum* (the last from the Mississippi), all have yellow flowers and bloom in the order named; the first, at the end of June, continuing through July. *H. aureum* produces its large yellow flowers until frost, and is the finest of all the Hypericums.

Hibiscus Syriacus variegatus. For a silver variegated leaf, this is one of the finest of all plants, and stands the summer sun without the slightest injury. Propagated by cuttings of hard or soft wood.

Actinidia polygama is a vigorous climber from Japan. The young shoots are of a pale brownish red, prettily speckled with ash colored dots. The flowers, in general appearance, resemble those of the pear. It is well adapted for covering an arbor.

Stuartia pentagyna is an old shrub, found in Virginia, flowering in June and July. The flowers are pure white, and resemble those of the Single White camellia, to which it is allied. It is propagated by seeds, cuttings, and layers, but is very difficult, and of slow growth.

Vitis (*Ampelopsis*) *heterophylla* is a very ornamental climber, especially in autumn, when it is covered with its fruit, which is yellow, white, purple, and blue.

Euonymus nanus is a pretty little dwarf evergreen, of very dense growth. It has scarlet fruit, about midsummer, similar to that of

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the other species. It may be grafted standard high, or may be propagated by cuttings.

Euonymus alatus (the Wing-Barked Euonymus) is a small shrub with red berries, propagated by cuttings.

Euonymus verrucosus is a very neat dwarf shrub, with warty bark (as the name signifies), and bright red fruit.

Staphylea Colchica is tender at first, but hardy after a few years. It is propagated by cuttings of the young wood, or by layers.

Æsculus macrostachya (Dwarf Horse Chestnut) is a low growing species, with long spikes of pure white flowers, which are very effective. It blooms about midsummer. It may be propagated by seed or grafting.

Cytisus purpureus, is an old and valuable dwarf shrub, with purple and white flowers, appearing early in spring.

Cytisus nigricans has bright lemon colored flowers in summer. A very desirable small shrub, never exceeding a foot or a foot and a half in height.

Halimodendron argenteum blooms the last of June, and the flowers resemble those of the purple Cytisus. It does best grafted on Caragana, as it is rather a weak grower on its own root. The plant is similar to the Caragana, but the leaves are more silvery.

Amorpha canescens, or Lead Plant, is a very pretty native of Missouri, about two feet high at the most. Leaves downy; flowers deep purple, in long spikes, appearing about midsummer. Well worthy of cultivation.

Lespedeza bicolor is probably from Northern Asia. It blooms in June and July, and the flowers resemble those of the Cercis. It is perfectly hardy, but very difficult to propagate by cuttings.

Caragana arborescens (Siberian Pea Tree) grows from six to eight feet high, and has foliage similar to that of an acacia. In early summer it is covered with its yellow pea-shaped flowers. It is best propagated by seed.

Caragana frutescens var. *grandiflora* is propagated by root cuttings, but would make a better plant grafted on *C. arborescens*. The flowers are of a lighter yellow, and larger and more showy than those of *C. arborescens*.

Caragana spinosa is a curious species.

Robinia hispida, when grafted on *R. Pseud-Acacia*, grows more vigorously, does not throw up suckers, and flowers two or three times in the summer.

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Dolichos Japonicus kills to the ground. It is a rapid climber.

Prunus pumila is found wild on our hill-sides. In cultivation it makes one of the neatest shrubs—prettier than *Deutzia gracilis*. It grows from a foot to three feet in height, and the flowers are white.

Prunus Japonica alba plena is old, but valuable. It does best grafted on the plum. The flowers are similar to those of the flowering almond, but snowy white.

Cerasus Watereri grows from six to eight feet high, and has very large double flowers, an inch and a half in diameter. It is the finest of all the double flowering cherries, and is propagated by either grafting or budding on the common cherry.

Spiræa millefolia is entirely new to cultivation. It was found in the dry districts of Nevada, and proves perfectly hardy. It grows three feet high and flowers in July and August; the individual flowers are half an inch across, white, and borne in spikes. Propagated by cuttings of the new wood.

Spiræa hypericifolia. The foliage is very pretty, having a glaucous tinge all through the summer. It is more desirable for the foliage than for the flowers.

Spiræa Thunbergii is well known, and now mentioned merely as one of the good things.

Spiræa betulæfolia is from California. It has pure white flowers in large round heads, the last half of May. It is propagated by cuttings.

Spiræa confusa var. *mollis* is the earliest of all the species. It is very free flowering; the flowers are white, with a slight tinge of yellow.

Spiræa Douglassii var. *Nobleana* has very large spikes of purple flowers, about the middle of June.

Spiræa Van Houtteii is a variety of *S. Fortunei*. It has very rich colored foliage, and fine, pearly-white flowers. It does not make a large plant, but is one of the best.

Spiræa salicifolia var. *Bethlehemensis* has deep rose-colored flowers in spikes like those of the type, from the middle of June to the first of August.

Spiræa salicifolia var. *Billardieri* is possibly an improved variety of *S. Douglassii*, with much more showy flowers.

Spiræa callosa var. *semperflorens* has flowers smaller and lighter colored than those of the type, and they continue nearly a month longer. They are borne in umbels.

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Spiræa callosa var. *alba* is not as vigorous a grower as *S. callosa*, of which it is a white variety.

Neillia Amurensis is a vigorous growing shrub from Northern Asia, resembling *Spiræa opulifolia*, but the flowers are three weeks earlier, and much finer.

Exochorda grandiflora is well known as one of the finest shrubs, and one of the hardest to propagate.

Potentilla Salesovii is a shrubby cinquefoil, growing two feet high. It has large white flowers, and is propagated by cuttings.

Rubus deliciosus is from the Rocky Mountains. The flowers are pure white, of the size of an ordinary single white rose, and very showy. It may be propagated by seed, cuttings of the hard wood, or root cuttings.

Rosa rugosa alba is pure white, pretty, and desirable. The foliage takes a handsome color in autumn.

Rosa alpina glandulosa is the earliest of all the wild roses, flowering at the end of May, and a very desirable species. The wood is almost wholly free from thorns.

Rosa rubrifolia has rich deep purple foliage the whole season through, which, with its beautiful flowers, makes it a very desirable species. It is very difficult to propagate.

Rosa multiflora is one of the neatest of the wild roses, with pure white flowers, which have yellow stamens. It flowers from the first to the tenth of June. The fruit is ornamental, and hangs on all winter, giving it a very pleasing appearance.

Rosa setigera, one of the latest blooming of all the native roses, produces large clusters of light pink blossoms, and is very showy. It is probably the parent of the climbing Prairie roses of the gardens.

Rosa alba is one of the finest and purest of all the large white roses.

Rosa blanda var. *scropularia* is from the Rocky Mountains, and was received from Dr. Engelmann, the discoverer. It is very beautiful in bloom, and the fruit is perfectly magnificent — more beautiful than that of any other rose.

Rosa foliolosa has very light colored large flowers. It is dwarf, growing only a foot high, and the latest flowering of all the genus, blooming into July.

Amelanchier Canadensis (Shad-Bush or June-Berry) is one of the most beautiful native shrubs; it has snow-white flowers in June.

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Amelanchier vulgaris (European) is a very pretty dwarf-growing species, quite similar to our *A. Canadensis.*

Amelanchier Asiatica is almost pendulous, and perfectly hardy.

Amelanchier alnifolia, from the Western States, grows from one to three feet high, and has very pretty white flowers and purple fruit.

Amelanchier—species from the mountains of Japan—is a very neat growing shrub and perfectly hardy, but has not yet flowered.

Malus Japonica (*M. Toringo* of some botanists) has semi-double flowers, appearing the last of May. They come out crimson, and change to rich rosy pink. This is one of the most desirable shrubs for a moderate-sized place. It may be budded or grafted.

Cydonia Japonica nivalis is a new, white flowering variety of the common Japan Quince. The flowers are large and pure white, and it is one of the finest additions to the varieties of this beautiful shrub.

Cydonia (*Pirus*) *Maulei* is a new species here. It has brick-colored flowers appearing with those of *C. Japonica;* smaller, but much more numerous. A very desirable shrub.

Ribes saxatile, from Northern Asia, has yellow flowers, and later is covered with rich orange and red berries. It is best propagated by hard wood cuttings.

Philadelphus hirsutus is a very pretty native species, well worthy of attention. It is dwarf in comparison with *P. grandiflorus*, etc. The shoots are slender and droop over, and are covered with pure white flowers, which appear about the first of July. It is best raised from cuttings.

Philadephus variegatus is one of the neatest of the white variegated plants, and stands the summer well. Of very slow growth.

Philadelphus grandiflorus is known by every one.

Philadelphus microphylla, a native of Colorado, grows one foot high and has small foliage, one tenth of the ordinary size. It is a perfect little gem.

Philadelphus coronarius Schrenkiana, from Northern Asia, is one of the earliest varieties, and a dwarf growing kind.

Deutzia parviflora is from Northern China and Japan. The flowers are pure white, in umbels; they appear a week or ten days earlier than those of *D. gracilis*, and last till that is out of bloom.

Aralia Chinensis (*A. cordata*) has leaves almost as large as palm leaves, and would produce a sub-tropical effect. It is propagated by root cuttings.

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Aralia pentaphylla is good. It is shrubby, with leaves as brilliant as those of the holly, but deciduous. Propagated by cuttings.

Cornus florida pendula forms a small tree, and will be desirable if it proves hardy here, which is somewhat doubtful, it being a more southern form than the type. It may be grafted or budded.

Cornus Sibirica. The great beauty of this species is in the wood, which is of vermilion color, and brightest in the coldest weather. It is easily propagated by hard wood cuttings.

Cornus brachypoda is a new Japanese species, which has not yet flowered, but is said to be very fine. The foliage and growth are somewhat similar to that of our *Cornus alternifolia.* It is propagated by cuttings or grafts.

Lonicera hispida is a very neat, low-growing shrub, with very pretty purple flowers, which appear in spring.

Lonicera Merrowii, from Japan, is similar to *L. Tartarica.* It is beautiful in both fruit and flower, bearing a profusion of berries, which hang on until September.

Lonicera Maximowiczii is probably an Asiatic species. It has pretty purple flowers, and fruit of a brilliant, glossy red, like that of a red currant. It is very difficult to propagate.

Viburnum Japonicum has large, leathery foliage; the leaves are from four to six inches in length. It has not flowered yet, but the foliage is very beautiful, and it is perfectly hardy.

Viburnum plicatum is too well known to need description. It has been considered difficult to propagate, but cuttings of soft wood, put in in July or August, under glass, root as easily as any shrub.

Viburnum macrocephalum has very handsome white flowers. It grows from three to five feet high, and is free flowering and very showy. Propagated by cuttings or grafts.

Viburnum rotundifolium resembles *V. plicatum*, but is very dwarf, and the leaves are smaller and not downy underneath like those of *plicatum.* The flowers are as white, and in similar heads, but earlier and smaller. From Japan, and hardy.

Viburnum Lantana, a European species, called there the Wayfaring Tree, has been so long known here as hardly to need description. Soft, woolly leaves; white flowers in spring followed by black fruit. It is worthy of more general cultivation than it has received.

Viburnum lantanoides, known also as Moosewood, is one of our

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handsomest native shrubs, with very large round leaves and pure white flowers. The fruit is brilliant red at first, turning to dark purple or black. The autumn foliage is very rich. It is seldom seen in cultivation, but ought to be.

Viburnum prunifolium is a very pretty native species, well worthy of cultivation. The same may be said of *V. dentatum*, *V. nudum*, and *V. lentago*.

Viburnum Opulus nana is probably a dwarf variety of the common Snowball, and is a very low, compact growing shrub, not exceeding a foot in height. It is very desirable for an edging, or wherever a low shrub is needed.

Erica carnea, grows less than a foot high, and is one of the hardiest of all the Ericas. It flowers early in the spring, as soon as the snow leaves the ground. There is also a variety *alba*.

Andromeda polifolia is a very pretty glaucous leaved shrub, a native of Massachusetts and northward. The flowers are pink, changing to white, and produced in May.

Andromeda Japonica is a lovely evergreen, but wants to flower too early, and should be shaded.

Oxydendrum arboreum flowers in August and September. It is difficult to propagate. The foliage turns to a beautiful purple in autumn.

Kalmia latifolia and *K. angustifolia* flower in June and July. They are well known as beautiful native shrubs, which ought to be in every collection.

Rhododendron Catawbiense. In June, the top of Rown mountain, in North Carolina, is covered, by hundreds of acres, with this beautiful shrub, like one vast flower garden.

Rhododendron maximum is our well-known hardy species, and the latest flowering — almost a month later than the others. A vigorous grower, with pale pink flowers.

Rhododendron punctatum is a very pretty little species from the Western territories. The flowers are deep rosy pink, with dark purple or maroon spots. It is not quite so hardy as the other species.

Azalea nudiflora is a native species, with very pretty, fragrant pink flowers, produced in May.

Azalea viscosa is another well-known native species, with very fragrant white flowers in July.

Azalea calendulacea is a native of the Middle and Southern

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States. The flowers vary from pink to yellow in many shades. They appear in June.

Azalea arborescens is from North Carolina, and grows from fifteen to twenty feet high. The flowers are almost pure white, with scarlet stamens, and come after those of all the other species are gone.

Azalea mollis is one of the finest and hardiest of all the species. The flowers, which are in all shades, from salmon to yellow, are very nearly equal to those of the Indian azaleas.

Ledum latifolium grows a foot and a half high, and flowers in May. It is found in the mountain regions of the Northern States. It is a very pretty shrub, with pure white flowers.

Clethra alnifolia, our native species, is well known, and easy to handle.

Clethra Japonica has not flowered, but is said to be better than the above. It is difficult to propagate.

Styrax Japonica flowers very freely in June and July. The flowers are pure white, and resemble small Halesia flowers. It is propagated by cuttings of the young wood. At the Arboretum it has winter-killed somewhat; but at the Botanic Garden, in Cambridge, it stands perfectly.

Symplocos sp. is from the mountains of Japan. It has very fine sprays of white flowers, and is perfectly hardy.

Lycium Chinensis has fine berries, which hang on after the frost has killed the leaves. They are larger and more showy than those of the European species.

Forsythia suspensa, when trained in tree form, with the head drooping, is one of the most beautiful objects in the garden in early spring. It is easily propagated by hard or green wood cuttings.

Syringa Sinensis alba is a very pretty early white flowering variety, from China.

Syringa ligustrina, from the mountains near Pekin, China, has not yet flowered, but promises well.

Syringa pubescens, grows from a foot to a foot and a half high, and has white flowers and fine large leaves, which, with its very dwarf habit, make it a plant of great promise.

Syringa ovata, has not yet flowered, but the appearance of the plant is grand; leaves large, heart-shaped, with a bright, rich, glossy surface, and holding on through the summer.

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Syringa sp. The seed was brought by President Clark, of the Massachusetts Agricultural College, from Japan. The plants are eight feet high, and still growing vigorously, and are of fine form and habit and promise to make small trees. They bear large spikes of white flowers after the other lilacs, even the Josika, are gone.

Ligustrum Ibota, or Japanese Privet, is a dwarf shrub, probably never exceeding three or four feet in height. It bears pretty little white flowers, almost completely covering the bush in July; the spikes are drooping instead of erect. It is entirely distinct from all the other privets.

Daphne Mezereum, though an old plant, is seldom seen. It blooms soon after the snow is gone, and the pink flowers are succeeded by pretty berries, which must not be eaten, as they are poisonous. There is a variety with white flowers, and also a double white. It is propagated by seeds or root cuttings.

Eleagnus argentea grows from three to four feet high, and has silvery foliage. It is well known to be dicœcious, and to have fruit both sexes must be planted. It is very hard to propagate, but root cuttings are best.

Eleagnus longipes flowers in May. The fruit is orange colored, and very agreeable to the taste. It is sold in the markets of Japan.

Mr. Dawson concluded with the remark that among our own native shrubs are varieties more worthy than two-thirds of those imported.

Hon. Marshall P. Wilder said that Mr. Strong's paper and Mr. Dawson's list, afford more information on hardy shrubs than has ever been presented at any other meeting. He had endeavored to keep abreast of the age in this as in other respects, but, like Mr. Hovey, was surprised at Mr. Strong's low estimate of the Weigela. He thought it would be hard to fill its place in our shrubberies. The variety with variegated foliage is far more beautiful than the variegated Althæa, and is never injured. He asked whether the Paulownia did not transcend the Ailanthus in beauty when headed down every year or two, as advised for the Ailanthus.

Mr. Strong thought that our climate would not allow us to cultivate the Paulownia as recommended for the Ailanthus, though it might do. There are two or three varieties of variegated Althæas, one of which is more beautiful than the variegated Wiegela. He

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did not speak of layering as a method of propagating shrubs, because that, as a rule, it is not suitable for them, being apt to make one-sided plants, but it is well adapted to propagating vines. The Stuartia is not hardy with him.

Mr. Dawson said that he had cultivated the Stuartia in the open nursery without protection, and had seen it on a gravel knoll at Mr. Parkman's, and on the edge of an azalea border, and never winter-killed.

Mr. Hovey said that the Stuartia is hardy with him.

Mr. Wilder's experience with the Stuartia was like Mr. Strong's; he had got plants several feet high, but never could make it flower. The Paulownia dies down, but sends up magnificent shoots; he had had one fourteen feet high. He had had the *Azalea mollis* for twelve or fifteen years, and it is as hardy as his pear trees. It is a magnificent acquisition, with its vivid orange and yellow flowers. He has crossed it with the Chinese species, and the seedlings have stood out for two years. The *Magnolia Halleana*, with double white flowers, is a very fine acquisition. Nothing eclipses the *Hydrangea paniculata grandiflora;* he cut the flowers before frost and put them in water for a few days, and they were as handsome at the time of speaking as when cut; it is an everlasting flower. He advised to hold fast to the good things, new or old.

Mr. Dawson said that there are two species of Stuartia; the *Virginica* is tender, while the *pentagyna* is hardy.

Col. Henry W. Wilson thought the directions given in regard to propagating, both valuable and interesting, as teaching people how to get shrubs easily. We are in danger of overlooking our native shrubs, such as the beautiful Kalmia. Every one can have a border of native shrubs. The High Bush Blueberry is easily cultivated, and beautiful both in spring and autumn. He has a plant eight feet high, which is a mass of fruit in its season, and supplies his family with more than all they want. It combines utility with beauty.

Benjamin G. Smith said that he has a hedge of the high blueberry, which is one of the most interesting features of his garden. The plants were removed from the borders of Fresh Pond to the most elevated location in Cambridge. He gives them an annual dressing of peat.

Mr. Wilder said that the high bush blueberry wants a good deal of water.

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Col. Wilson said that some varieties do not require much moisture. He had seen a plant flourishing on a dry hill-side.

Mr. Wilder said that hill-sides are often well supplied with springs.

Mr. Dawson said that he knew a place where the high bush blueberry grows from one to six feet high in almost pure white sand.

William H. Hunt said that there are a number of varieties of the blueberry. One has a very low bush, about six inches high, and the fruit is very sweet. Another grows about two feet high. The high bush blueberry usually grows in swampy ground. A neighbor had a bush from which he picked a peck, and Mr. Hunt picked nearly a peck more. This was not in a wet soil, but one only moderately so. There were several stems to the bush.

Caleb Bates thought that the blueberry had been much neglected. The great variety in the fruit would indicate that improvement might be made. He remembered a bush on a dry hill, where the roots ran under a building, which bore a great quantity of fruit. The "Fruit Recorder" mentions a bush with berries five-eighths of an inch in diameter. Sometimes they grow fifteen or twenty feet high.

Mr. Dawson said that the Low Blueberry is *Vaccinium Pennsylvanicum*. The next dwarfest, with larger, coarser foliage and darker colored fruit, a week or ten days later, is *V. corymbosum* var. *amœnum*. *V. vacillans* grows from one to two feet high, with glaucous leaves, and the fruit is produced in bunches on the ends of the shoots. The common High Bush Swamp Blueberry is *V. corymbosum*.

C. M. Atkinson said that next to possessing shrubs is the knowing how to use them. He condemned the practice of cutting year by year so as to form a balloon shaped bush. The knife should be used judiciously so as to keep them within bounds. One of our horticultural periodicals has repeatedly recommended the shortening of all shrubs in the spring, which is especially injurious to the Philadelphus and others which bloom on the last year's growth, if flowers are desired.

Warren H. Manning thought that peaches form the blossom buds the year before, and the Philadelphus on the new wood.

Mr. Dawson said that the bud is made the year before on the Philadelphus as much as on the peach, but in the former the flower is developed later.

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J. W. Manning had found it necessary to keep Retinosporas pruned, to have good foliage.

Mr. Atkinson advised training the *Forsythia suspensa* to a single stem, with a large head, and cutting back as soon as it is out of flower.

E. H. Hitchings was glad to hear Mr. Dawson say so much in favor of native shrubs. The *Ledum latifolium*, which Mr. Dawson spoke of as growing on Mount Washington, the speaker had found as well on high in Concord, with *Andromeda polifolia* and *Kalmia glauca*. This is very fragrant. *Leucothoë racemosa*, when exhibited here by the speaker last year, was thought by the Flower Committee more beautiful than *Andromeda floribunda*.

Mr. Dawson said that the Leucothoë does as well on high ground as the high blueberry.

It was announced that on the next Saturday, William H. Hunt would speak on the "Cultivation of Hardy Grapes."

BUSINESS MEETING.

SATURDAY, February 24, 1883.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

The President, as Chairman of the Executive Committee, to which the subject was referred, reported, recommending that the TRANSACTIONS of the Society be sold to persons outside of the State at the rate of two dollars per year. The report was accepted and adopted.

Hon. Marshall P. Wilder announced the decease of Hon. Paul A. Chadbourne, D.D., LL.D., President of the Massachusetts Agricultural College, and moved the appointment of a committee to prepare memorial resolutions. Mr. Wilder spoke of Dr. Chadbourne as deeply interested in everything appertaining to the culture of the soil or the welfare of mankind, and as a man of science and a promoter of religion. In fitness for the head of

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such an institution as the Agricultural College he had no superior, and his loss to it is an irreparable one. He had visited our rooms and expressed deep interest in the welfare and progress of the Society. The motion was carried, and the Chair appointed Mr. Wilder, William C. Strong and John B. Moore, a committee to prepare memorial resolutions.

Adjourned to Saturday, March 3.

MEETING FOR DISCUSSION.

The Cultivation of Hardy Grapes.

William H. Hunt, who had been appointed to lead the discussion, said that twenty-five years ago we should hardly have thought of discussing the subject. Then no cultivation of hardy grapes existed. The only variety grown was the Isabella, and no one thought of cultivating it on an extensive scale, and no one had any faith in it. Mr. E. W. Bull, by raising the Concord, proved that it was possible to improve the wild varieties, and make cultivation profitable. The Concord was only one step in improvement, but certainly a very wonderful step. Mr. Bull's success led others to attempt the improvement of the grape, and the number of varieties now introduced is very great, and there seems to be no limit to the possible improvement.

The grape is one of the most healthful, as well as delicious fruits. Every one can eat them; and, in Germany, grape cures have been established for invalids. Our chief fruit crop is the apple, but it bears only once in two years, while the grape bears every year, with seldom a failure. The speaker had been growing grapes for twenty years, and never had any vines killed except in one year, when he lost as many pitch pines, and he had failed of a crop but one year, when he had half a ton instead of five tons. He had cut down vines and cultivated four or five years, and still the roots threw up shoots. Grape vines do not require rich meadows, but can be grown on poor hill-sides and other land not adapted to general farming.

Guyot states that the colonizing power of the grape is three times greater than that of wheat. On poor lands he estimates the annual product of a farm in grain and pasture at $20 per acre per

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ineyards at from $48 to $192. In Champagne, the is 290 gallons, worth 50 cents per gallon, or $145 ıe same land in grain would yield but $22. The is about $60 per acre for the best wines, and $30 for nd quality. If we go into the cultivation of grapes y, we can produce an immense quantity. The num- in vineyards in Europe, in 1878, was 14,000,000, pro- 32,000 tons of grapes, and 3,806,200,000 gallons of 72 gallons per acre), worth, at 25 cents per gallon,)0. In France, there were 5,500,000 acres of vine- lucing 9,000,000 tons of grapes, and 1,505,000,000 gal- ıe, worth $376,000,000. The population of France is), so that there were nearly 500 pounds of grapes to each . The product of wheat was 229,000,000 bushels. In year, the United States produced 1,378,000,000 bushels worth $441,000,000; 448,000,000 bushels of wheat, worth ,000; 5,500,000 bales of cotton, worth $200,000,000, 00,000 gallons of wine, of which 10,000,000 gallons were l in California. The population of the United States is)00, and the area 3,000,000 square miles. The size of is 206,474 square miles. The area of Texas is greater at of France; and California contains more acres suited to tivation of the grape than France. Grapes require a large t of labor which never can be done by machinery, but can formed by women and children.

Hunt next considered whether the cultivation of the grape e made profitable in Massachusetts, and thought that it could properly attended to, with sufficient knowledge. The grape survive neglect, but it does not pay to neglect it. If a vine- cannot be properly cared for, it would be better to cut it n. Grapes want a dry soil, and an elevated situation should ays be chosen for a vineyard. The ground should be properly pared by ploughing thoroughly, but not very deeply. It should furrowed out where the vines are to be planted, to save the pense of digging holes. The distance apart of the vines depends the system of training and pruning to be adopted. If they are be trained to stakes, they should be eight feet apart; if a trellis used, the rows should be ten feet apart, and the vines six feet in he rows. On stakes, two arms are trained, and they are pruned on the spur system. On trellises, both the spur and renewal sys- tem are used. The system is not of the first importance; the vine

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will accommodate itself to any. The grower should know how much fruit and foliage to retain. Overcropping must especially be avoided, and one can only learn by experience how much fruit a vine will carry. This is a matter of the first importance; for if a vine is overtasked, it is not only weakened for future years, but the excessive crop will be late in ripening. In California, the main cane is grown three or four feet in height, and no stake or trellis is used, but the shoots are allowed to hang down. In Italy, vines are allowed to run on trees; chestnut trees are planted for this purpose, and when they have grown to a large size, canes twenty feet long will run from one tree to another. In Germany, the bow system is used. Every section has a different system. That pursued by Dr. Fisher, of Fitchburg, who has been very successful in the cultivation of the native grape, is being introduced. This is the renewal system, where a cane which has fruited is cut off in the fall, and replaced by one which has been grown for that purpose. The speaker has used stakes with two shoots coiled around them. In this method great care is required to prevent too much growth at the top. Other crops can be grown between the vines for two years, during which time but few grapes can be expected, but after that time the roots will be well established, and no other crop should be grown on the land, but thorough and clean cultivation should be practised. The speaker prunes at any time in the winter, and had also pruned without injury when the vines bled. He had tried them without pruning for one year. Summer pruning or pinching the young shoots is important to restrain the growth of the vine, and prevent it from running to wood at the expense of the fruit. Only experience will tell how much to take off in pruning.

There is a great difference of opinion in Europe in regard to the use of manure for vines. Guyot states that in some of the best wine districts they are afraid to use stable manure, lest it should injure the quality of the wine, and that, where it is necessary, it is put on after the vintage. At Thomery, where the best table grapes are produced, the vines are manured liberally every three years. At Johannisberg, cow manure is used freely, and the director thinks that it improves the quality of the wine. The grape does not require a great deal of manure — not twenty-five cords per acre, like the market gardens of Arlington — but, like all flowers and fruits, it needs a soil so prepared as to be adapted to its

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e manure, if used, should be rotted down. Mr. d bone and ashes as the cheapest manure; he would able manure if cheaper. The rose-bug is an enemy ower has to contend with. The speaker had not tried bunches with bags, but would have done so if he had ew vines. Small growers have as many rose-bugs as out there are not so many near forests as in the open

rshall P. Wilder agreed with the practical statements Ir. Hunt, especially in regard to the value of the Con-, the capacity of our country for producing grapes, and nce and necessity of the fruit. No other fruit, except ie strawberry, is now attracting so much interest as the l none, if we except the apple, is of more importance cle of luxury for our tables. No other country possesses ast extent of territory, or such possibilities and probabili-its successful culture, as our own, embracing as it does ive degrees of latitude, and a breadth of longitude from ntic to the Pacific shores. Wherever our wild species will any part of our immense territory, there other improved s will succeed. The field for progress is absolutely without Mr. Wilder said that when, in his address before the can Pomological Society, in 1860, he predicted that the would be successfully grown in every State and Territory of nion, and that the fox, or native flavor, then so much ob- to, would, by the art of hybridization, become so modified hanged as to constitute one of the most excellent character- of our grapes, and give them a superiority over such varie- as the Black Hamburg and Sweetwater, and other foreign s, which are destitute of any special aroma, the prophecy was sidered not only improbable, but the aspiration of a young and ent disposition. The time has, however, now come, and he has d to see it, and now confidently believes that this flavor thus dified will give us seedlings which will rival the Muscats and ontignans of the old world.

Few are aware of the great extent of vine planting in our coun-y. No sooner does a new variety of excellence appear than it is eized on and planted extensively. Such is the case with the Niagara grape, of which there are vineyards of from ten to fifty acres each, and so the cultivation of the grape will continue to in-

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crease, until every section of our vast territory shall have varieties adapted to their several localities. Great progress has been made in grape culture since the establishment of this Society, when the only varieties of American grapes in our gardens were the Isabella and Catawba. Now we have numerous varieties of established excellence, but these are only the harbingers of the host of improved kinds which are to succeed them in coming time.

Mr. Wilder closed by naming the following varieties of grapes as possessing valuable characteristics:

Early: Moore's Early, Worden, Early Victor, Niagara.

Well established: Concord, Delaware, Brighton, Eumelan, Barry, Martha, Lindley, Wilder.

White: Martha, Lady, Prentiss, Pocklington, Niagara, Francis B. Hayes.

Of refined and superior flavor: Brighton, Lindley, Iona, and others.

Josiah W. Talbot had long felt that grapes are not only important but essential in every family. They can be grown by every one who has a rod of land. We need a certain amount of growth, and if we manure to exceed that, we lose by it. On rich land the vines are stimulated to make too much wood, instead of fruit. He recommended turf mould with a little ashes and bone as a fertilizer.

J. W. Manning said that in 1849 he was foreman in Samuel W. Cole's nursery, in Chelsea. In 1847, Mr. Cole got cuttings from the original vine of the Diana grape, and offered plants for sale in 1849. In that year, Mr. Bull came to the office of the Boston Cultivator, which Mr. Cole then edited, and told him he had a new and promising seedling black grape, and exchanged a plant of it for one of Diana. This plant was set out by the speaker, and soon fruited, but little account was made of it. It was not to be propagated for sale, and in the spring of 1853, Mr. Bull took the limited stock that had been propagated, and it was sent out under the name of Concord, in the spring of 1854.

C. M. Hovey said that the Diana was first exhibited before this Society in 1843. It was late in the season, and it was seen only by him and a few other persons. Samuel Downer, Senior, went to Milton to see the vine, and thought it the Catawba. Mrs. Crehore, in whose garden it originated, sent cuttings to Mr. Hovey, who cultivated it and sent it to A. J. Downing, by whom it was noticed

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lturist. Mr. Hovey found that it differed from the
he Concord was exhibited before this Society in
roduced for Mr. Bull by Hovey & Co., who sent out
s in 1854, when it attracted much attention, and still
. The Pocklington and Martha are descended from
, the Isabella, Catawba, Diana, Hartford Prolific, and
ere the only good grapes known.
y said that there is a difference between the cultivation
e for wine and for the table. For the latter we want
es, and more manure may be used; but for wine we
t rid of the water. In France, vines are planted three
each way, and this method was attempted in Cincinnati,
n they were not planted so closely, it was found that our
pes would not submit to the severe pruning necessary.
. Flagg speaks of twenty-two thousand vines being set
e in France. In that country, very little manure is given
e grapes are wanted for wine, but for fruit a greater
is applied, in proportion to the condition of the land.
ey agreed with what Mr. Wilder had said of the import-
working out the fox flavor in our native grapes, and leav-
aroma which makes the Brighton and others so delicious,
he did not think we should produce anything to equal the
t of Alexandria.
iam C. Strong said that though fully aware of the value of
ncord grape, he thought Mr. Hunt had stated it too strongly.
far inferior in quality to either the Isabella or Catawba,
were cultivated here with success before our climate was un-
ably modified, as was also the foreign grape out of doors.
ng the difficulties in growing grapes here, one is the compe-
n of more favored climates. Varieties ripening before the
awba are produced here at a loss. The Concord was an ad-
ce on the Isabella in earliness, and the Worden and Moore's
ly have made still greater progress in the same direction. The
ly Victor promises to be a great gain, and the Lady looks like
aluable acquisition for New England. The last is an iron-clad,
d that is what we want. The speaker doubted the value for
arket of many of the new comers. The Lady Washington and
uchess may succeed in gardens. He thinks more and more of
ne Delaware; when it attains age it resists mildew. It is exceed-
ngly productive, but cannot be produced as cheaply as the Con-

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cord. It had been a question with him whether he could meet the rose-bug. If it continues to increase as in the last two or three years, it will become an evil of serious proportions, but he believed we can meet it. He had tried bagging; it is effectual, though involving much labor; but any care that will produce superior fruit will pay. The *Spiræa sorbifolia* attracts the rose-bug, and it is easy to shake them from it, but difficult to shake them from the bunches of grapes.

John B. Moore said that the grape crop is more certain than any other of the large fruits, even the apple. In a good location, we can be sure of a crop four years out of five, even with the rose-bug. He understood by a hardy grape, one that would stand twenty degrees below zero without laying down, and though he did not object to others, he thought they should be described as half-hardy. He did not advocate any particular plan of pruning, but any one that would fill the trellis with medium sized, mature young wood, is a good one. If the Concord is cut back to a single bud, besides the small one at the base of the shoot, half the time the bud left will be only a leaf bud, and varieties of this character should therefore be pruned longer. Mr. Moore thought that in some varieties he could distinguish the fruit buds from the leaf buds. If too many shoots are produced from leaf buds, they may be rubbed off when six inches long. He trains both on trellises and stakes. For trellises he uses posts eight feet long, set three feet in the ground, and the end posts braced. Three hundred feet will require twenty-two posts besides two for braces, costing seven cents each, delivered. They are of chestnut, not less than four and a half inches in diameter at the smaller end. The setting will cost $1.32; sixteen pounds of No. 14 galvanized wire, eighty feet to the pound, $1.44; and stretching the wire fifty cents, making a total of $4.94. This is the cheapest method of training. If the lines were only a hundred feet long they would cost $1.65, besides the two extra posts for bracing. If stakes were used, eighty-four would be required, costing six cents each, and $1.50 for setting, making $6.54. The trellis would not only be cheaper, but would last longer. The arms do not get loose on a trellis. He had trained somewhat on Dr. Fisher's plan, one arm being left long to bear this year and be cut away and replaced by another next year. Every other vine occupies the two upper and two lower wires. He had found difficulty in fruiting an arm left too long, and thought

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ıt have over fertilized. The crop depends not so ount of wood, as on good, well ripened wood. If l, it will mature a better bud. For market, he ıches, for they sell better, and if the berries are ss exhaustion to the vine from maturing seeds, for many in a pound of grapes. If vines are trained ıecessary to coil them, to check their growth, and flow of sap is not so uniform. He places his et apart, so that he can go between them with a cart, ix feet apart on the trellis. If stakes are used, you ı them either way with the cultivator. We want as ıe ground as possible, and we get more with stakes ises. On trellises, the fruiting shoots must be tied ces, this is not necessary. On stakes the fruit chafes d rubs off the bloom.

› insects, the rose-bug (*Macrodactylus subspinosus*), f the most troublesome, comes out of the ground the in June, and lasts thirty or forty days. The male l the female deposits about thirty eggs in the ground, ıe larvæ are hatched in about twenty days. They t three-quarters of an inch in length, and the last of low the reach of frost and there winter. As soon as it ome up near the surface, and work round in the earth a cell in which the larva changes to a chrysalis. It hat they cannot be reached in the egg, larva, or pupa at there is no way to destroy them except by picking. as he could remember, he saw them as thick as they ı 1823, John Lowell described an apple tree as covered o thickly that destruction by hand was out of the l he spread sheets under the tree and shook them down them. Dr. Green, of Mansfield, found eighty-six on a bud, which were crushed with one grasp of the hand. red bug (*Haltica chalybea*), eats the germ of the bud, o know when any one is coming after him.

re thought it is not desirable to use animal manure for ı he has to be careful even with bone and ashes. They poor land. He has several acres of grapes which have ıure.

›ot said that he picked the rose-bugs as long as one

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It was announced that on the next Saturday the subject would be "Strawberries and their Culture," by Hon. Marshall P. Wilder.

BUSINESS MEETING.

SATURDAY, March 3, 1883.

An adjourned meeting of the Society was holden at 11 o'clock, Vice-President BENJAMIN G. SMITH, in the chair.

N. B. White moved the following Vote: That all specimens of fruits exhibited for the Prospective Prizes, be weighed and measured; pears, apples, etc., single specimens; currants, grapes, etc., the cluster and individual berries to be measured to ascertain the diameter of the same.

The vote was referred to the Fruit Committee.

The following named persons, having been recommended by the Executive Committee, were, on ballot, duly elected members of the Society:

SEWALL FISHER, of Framingham,
WILLIAM B. DINSMORE, of New York,
ALFRED W. SPENCER, of Dorchester.

Adjourned to Saturday, March 10.

MEETING FOR DISCUSSION.

STRAWBERRIES AND THEIR CULTURE.

By Hon. MARSHALL P. WILDER, Dorchester.

The strawberry is one of the most capricious plants with which I am acquainted. A variety may do well in a certain locality, and in another not far distant, may be an entire failure. There are some varieties, as of other fruits, such as the Baldwin apple, the Bartlett pear and the Concord grape, that are adapted to a wide extent of territory. Such is the fact with the Wilson strawberry, which is starred on the Catalogue of the American Pomological

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y-five States and Territories, while no other has
ty-eight stars. We must, therefore, study the
our soils, locations, and climates, and select such
best adapted to them. The acclimation of tender,
nts, is a fallacy, and we shall at last be forced to
ss of things to the conditions in which we live.
lture has assumed a rank of great importance in
s. Great progress has been made in the introduc-
l fine kinds, but there is still room for improve-
ement is the destiny of our race. The instincts of
we believe in "evolution" or not, are all in the
ment. So it is with the fruits of the earth, and I
son why we may not produce strawberries of the
nd such as are adapted to every section of our vast

improved varieties, we should select as breeders,
ess the characteristics we wish to obtain. To make
ct cross, I have chosen pistillate or female kinds,
ed them with those of the greatest excellence. As
, I have taken the Crescent, although of second
emale parent, on account of its extraordinary hardi-
veness, good form and color, and have crossed it
ident Wilder, Hervey Davis, Duncan, Triple Crown,
h flavored, well formed, and good colored varieties.
nd other crosses, I have obtained some very promis-
hich I hope to present for your examination the
n.

fast approaching when the public will not be satis-
poor a strawberry as the Wilson, and if we can pro-
one, it will disappear from our markets. If we can
ther here of the quality and productiveness of the
rmer years, and better suited to general cultivation,
n,—should we not do it? What we want are varieties
that everybody can grow.

to culture, I have to say, that the strawberry plant is
r, and without a well prepared soil, an abundant supply
od, and at the proper time, no great success can or
anticipated. We should not plant on land which has
ears been occupied with the strawberry, and should
prepare most thoroughly before planting; give a good

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top dressing immediately after the fruiting season, and repeat this in the spring, being very careful not to disturb the roots. Well rotted stable manure is good; ground bone and wood ashes, or, as a substitute, muriate of potash, are excellent fertilizers, and these are all the better if composted with soil or manure, and allowed to heat before using. In this climate, the spring is the best time for general planting. But when all the prerequisites are secured, we have often to contend with the heat and drought of summer, which are the most formidable of all difficulties. No plant in its fruiting season is more benefited by a constant supply of water than the strawberry, and I repeat my former advice, "Give the strawberry water! water! water! and still a little more water." We cannot control the clouds. If I were to grow the strawberry on a large scale, for market, I would certainly provide the means of irrigation, so that water might be given when it is needed.

Some varieties require to be grown in hills, and to have the runners cut off as soon as they appear; such are the Sharpless, Bidwell, and Triomphe de Gand. Some are pistillate varieties, and require to have the bisexual kinds planted near by, and be in bloom at the same time. Such are the Hovey, Crescent, Jersey Queen, and Manchester. For the want of proper impregnation, these kinds often fail of a good crop, but with a suitable companion, the pistillate varieties produce very large crops, as did the Hovey forty years ago, and as, if I mistake not, Mr. Hovey will show us that it can do now.

Some varieties produce a large number of trusses, and give promise, when in bloom, of extraordinary crops, but do not yield so much as those of less pretentious appearance. The truth is, there is a limit to the power of production, and where there is a superabundance of trusses and flowers, only a portion will set their fruit and carry it out to perfection, without excessive stimulation. Another cause of failure may be traced to a deficiency of pollen on some of the bisexual varieties, and it is well to plant near them also, such as are furnished with an abundance of it.

Among the varieties which are taking the place of the Wilson, and other inferior kinds, is the Charles Downing. Although not quite firm enough for long transportation it is, for home and near markets, assuming a prominent place for general cultivation. While the Wilson, which has been known for twenty-five years, or more, has added on the Catalogue of the American Pomological

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hree stars in the last eight years, the Charles re recent variety, has added four times as many in d, and stands to-day second for cultivation on the ie varieties. This variety blights in some seasons, er done so with me for fifteen years, and there is no hich I am acquainted, of equally good quality, which erally cultivated.

system of planting, I need say but little before so cultivators. For garden culture, I like the method n rows three feet apart, with plants one foot in the g each to make from two to four shoulder runners, and the first season. These, by autumn, will constitute a of strong bearing plants, and will produce more than n matted beds. For field culture, I would plant in eet apart, and a foot apart in the row, and where wide lowed, it will be found of great benefit to pinch off all s runners, so as to have none but strong plants. The y, or wearing out of varieties, as it is called, I think be traced to the exhaustion of proper elements in the to bad manipulation of the plants. The strawberry ot be grown on the same soil for more than two or three hout an intervening crop. Give it fresh, rich soil, and ig uniform plants, and we shall hear but little of the run- of varieties. In our rage for novelties, such as are des- s "the best in the world," we meet with many disappoint- and sometimes become disgusted with their failure, and em out as worthless kinds, without a fair trial. So with f our old kinds which have not been so much cultivated as in former years, such as the Hovey, Jucunda, Triomphe nd, and others which were once popular. It would be, I a wise measure for this Society to offer a special premium ie restoration of those old valuable varieties of fruits and rs which have gone out from general cultivation.

nong the new varieties of the strawberry now being promulgated ossessing extraordinarily good characteristics, are the Man- ter, Jersey Queen, Iron Clad, James Vick, and Big Bob (par- me for uttering that vulgar name), and should any one of these ities come up to the merits claimed for them, we should need other kinds. But, my friends, we have not yet arrived at the mmit of perfection with the strawberry or any other fruit. Let

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ıt they have borne such crops as never were seen Manchester, we are told, will bear double the crop and the James Vick double that of the Manchester. ıst, however, be allowed to the introducers of new y would not undertake the work without some en- ıustain them. If one out of fifty of the new kinds ble, we shall be well paid for testing them. The s no doubt a very good kind. The Manchester, as was an entire disappointment. It is, however, not so Wilson, aud is of better color and form, and may ılar. The Shaker Seedling originated near Albany, ıber of the Shaker Society called on the speaker and to introduce it, describing it as of fine color, size, etc., quart of the berries was received, not one was an inch r, and they were pale and soft. It soon passed out of ı. The Great American and Jersey Queen have not n here to any extent.

ıvey agreed with the advice given by the essayist to con- ılant seed, in the hope of gaining something superior. ıreak once occurs there is no knowing what may be pro- A new variety, to be worthy of introduction, should be igorous, and productive, with fruit of good color and fine and it is difficult to get all these points in one variety. A rry may be of fair size, but the leaves may burn, or the ay be very large, or may turn over so as to be difficult to ıld of. The late J. O. Wellington, of Belmont, said that a ı would pick a hundred quarts of Hovey's Seedlings a day. ıints must be looked at. Well selected seed, from the best ies, especially from pistillate kinds, will produce seedlings as as the average of the new kinds introduced as remarkable berries. Actual impregnation by hand is, however, the only way to obtain the best results.

. W. Wood said that the opening paragraph of Mr. Wilder's y gave the cause of the difference of opinion which exists in ard to the varieties of strawberries. If we look at the names he kinds for which this Society offers prizes, and then at those tivated in the West, we shall find in the latter hardly a name ıt we recognize, but coming farther east we begin to find a few those cultivated here. The Wilson, however, adapts itself to soils, and succeeds on dry land, but has failed for the last few

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often injured by the winter. The place to look for ury is in the crown. If they have wintered well, he ery other one. He covers some as early as the first of and those covered at that time have gone through ı those covered later failed. He uses old meadow hay, inly; he wants to see the plants through the covering. with what had been said about irrigating, but there is ıg as watering too much, which injures the roots. They air, which they cannot have if the ground is filled with ; is death to celery to stand under water twenty-four ot weather; the best way is to saturate the ground, and ; go for several days or weeks. Mr. Hill agreed with Mr. ıat it is important not to disturb the roots of strawberry

ın H. Hills, of Plaistow, N. H., said that he had been to ense of getting the new kinds, and with the Manchester chromolith of a plant, showing a most extraordinary crop; thought he could beat it with a section of a row of his Great Prolific, which, on the sunny side, looked almost vinrow of fruit. The berries ripened on one side before the and he found it difficult to get pickers who would pick only uit. He had found very little difference in the season of ag of strawberries; the early, middle, and late all come ıer, and he wants a late variety. The Crescent opens the n, and is the last after the market is over. This variety has underrated. It is not soft, and remains hard a good while ne vines, and the quality is fair when perfectly ripe. The berland Triumph failed entirely with the speaker last year, ıg only a crop of buttons; the circumference was large, but end was not developed; he did not know whether it was a uliarity of the variety, or whether the pollen had been washed ıy. The Glendale was recommended as one of the latest, but was not pleased with it; it is of a dingy color—light scarlet,— s a very large hull, and is no later than others. The Crystal City s been recommended as the earliest, but a hundred plants did ıt give him a handful of berries. If this is the rule, it should be ricken from the list. The Windsor Chief was very fine with him ıst year. He plants in field culture, three feet by one, which is too ıear for matted rows. It is difficult to keep matted rows down to ne foot. In regard to the age of beds, he did not advise replant-

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ill not do to apply it to the Sharpless. There is no bet-
r for strawberries than bone and ashes, but he likes to
ds of stable manure to the acre along with it.
t improvement in the strawberry was at Montreuil, in
here remarkably fine wild strawberries were produced in
l burners' village. No further improvement came for
rs, when the Chili strawberry was introduced, and formed
rosses, improving the size. In England they were im-
y artificial crossing.
edlings which the speaker raised from the Early Virginia
the same as the parent, and seedlings from Rivers's Eliza,
ny other kinds growing around it, were the same, both in
and fruit, as the parent. After finding these results, it
ato his mind to plant a pistillate variety where it could be
ed by only one kind, and then he got as many varieties as
gs. He did not agree with Mr. Hovey that this method is
good as hand fertilization.
length of time that a bed should be kept must be judged of
e owner. If it is vigorous in the fall, why not keep it?
nnot be replaced by any crop that will pay as much. The
on is one of the quickest to fail, but no rule can be laid down.
w years ago he had some strawberries in hills in bearing for
years. He agreed with Mr. Hill that plants are often injured in
fall by a sudden freeze before they are covered. The same
iety will not succeed everywhere, and therefore it is impossible
name any one as the best for all cultivators. The Charles
wning is soft, and has behaved so badly for the last three or
r years that the Concord and Dighton growers have thrown it
ide. At Concord, the Sharpless and Miner's Prolific are the
vorites; the latter is very much like the Charles Downing, but
rger. The Cumberland Triumph is one of the best market ber-
es, but is a little soft and light colored. He grows the Hervey
Davis. He undertook to grow for quality, but the market does
ot appreciate it; all that buyers care for is a big, firm fruit;
those who look for fine quality are so few in number, that it is
hardly worth while to cater for them. When the Wilson was intro-
duced he would not plant it at first, but he had to come to it.
Though the fruit is so poor, there is a new crop of fools every year
to buy them.

C. M. Atkinson said that ninety-nine out of a hundred cultiva-

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f Hon. Paul A. Chadbourne, D.D., L.L.D., reported the
:—

ed, That the Massachusetts Horticultural Society sympa-
ost deeply with the Massachusetts Agricultural College,
monwealth, and our country, in the loss sustained by the
the Hon. Paul A. Chadbourne, D.D., L.L.D., the Presi-
said college; that we sincerely mourn the sudden removal
so highly distinguished for his learning, scientific attain-
nd incessant labors to promote the intellectual and moral
nent of his fellow men, and especially to advance those
al interests on which, more than on any others, the pros-
id happiness of the world depend.

ed, That we gratefully recognize in Dr. Chadbourne a
the highest moral principles and noblest aspirations,—who
stood forth manfully for the right, whose soul was ever
the best interests of mankind, and whose name will be
bered in the annals of our country, as a benefactor to the
race.

olved, That these proceedings be entered upon the records
s Society, and that a copy of the same be transmitted to the
y of the deceased, with the assurance of the sympathy of the
ety with them in their bereavement.

MARSHALL P. WILDER,
JOHN B. MOORE,
WILLIAM C. STRONG,
} *Committee.*

Wilder said that the death of President Chadbourne, at a
when he had raised the college to an elevation which it had
er attained before,—when he had laid his plans for still further
provement in the future, and when the trustees were confiding
in his energy and ability, was a most mysterious dispensation of
Providence. At the last meeting of the trustees there was a fore-
shadowing in the mind of the speaker of what has taken place.
resident Chadbourne stated that he had been doing the work of
two professors, each more than that of any one in Williams College,
and that he could not do it any longer. Mr. Wilder then moved
that the thanks of the Board be tendered to President Chadbourne,
for his zeal and energy, which was accordingly done, and he now
regarded it as providential that he made this motion.

John B. Moore desired to say that he agreed fully with the

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ith announced the decease of Arthur Bryant, n, Illinois, a Corresponding Member of the the appointment of a committee to prepare s. The motion was carried, and the Chair ommittee, Hon. Marshall P. Wilder, Benjamin rles M. Hovey.

turday, March 17.

EETING FOR DISCUSSION.

Hybrid Perpetual Roses.

By John B. Moore, Concord.

Ladies and Gentlemen:

the subject of Hybrid Perpetual Roses, I may say one of the classes of flowers that I have cultivated eal of interest, and from their beauty and fragrance d more real pleasure and enjoyment than from any that I have grown. I feel my want of power to wonderful beauty of form and color combined in the , which with its delightful fragrance renders it the d Queen of Flowers.

he powers of description of some of our Ex-Presidents, ny love for this flower soar almost into the ethereal t for want of this you will have to put up with plain fact descriptions of varieties and methods of culture. let me say that the object of this discussion today is to ate to each other our ideas of the value of the different of Hybrid Perpetual Roses, and how to cultivate them in manner; to compare our own with other methods, and e best. If any of us have made mistakes (and who has they are described it will enable others to avoid doing the ing. And if any person has a method considered superior rs we may give it a trial.

essed with these views, and with my duties to my fellow- rs, from whom I have received so much instruction, I find still have some diffidence about submitting my methods and asions, well knowing that among our members will be found nost eminent horticultural talent in New England. And if

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ivation has been simply keeping the lot clean and , and in the fall banking up the plants about one earth taken from spaces between the rows. When moved from around the plants in the spring, they ne weak, poor wood being cut out, and the slow ies cut back to six or eight inches, while the stronger d be left ten or twelve inches in length. The roses own in these rooms have been grown in precisely the escribed, and with the addition of water when needed. ring roses, strawberries, or in fact any crop, there ear to be any better way than to imitate nature — that ie land thoroughly, as it would be with a shower, and ntil it is needed again.

r novices I planted a great many kinds. My informa- varieties was what I had been able to obtain from the s that I found in the nurserymen's catalogues, and from oks on the rose. From this source I found out all about qualities of any particular rose, and none of its bad latter information I am constantly acquiring, and while ying and costly, it may perhaps be useful to me in future .

sects preying upon the rose or its foliage must be *exter-* . I am using the mildest term in this respect compatible owing good roses. What are they? First, the rose-bug, abits I described two weeks ago. There does not appear any feasible way of getting rid of them except by hand .

ve received a postal card from C. B. Lovewell, of Wellesley, ard to the rose-bug, in which he says, "I have destroyed by the use of whale oil soap of the usual strength, two ls to fifteen gallons of water. It was used by A. D. Webber ng ago as 1849 on peach trees, and three applications were ient to clear them all out. I have used it on grape vines with plete success for years." This, however, would spoil all the s, even if it destroyed the rose-bugs, and I do not feel certain t it would do that.

The rose slug is another depredator which destroys the foliage d ruins everything when found in large numbers. They are sily kept under by dusting the plants with powdered hellebore in ay and early June, two or three applications being sufficient.

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, but also that we may be able, as we are willing, to impart
›wledge so useful to us, to others by our published Trans-

Discussion.

Moore added that, while he had described his own method re, he did not claim any superior merit for it, for he had at a flower can be well grown in two ways. It is abso- ecessary not to prune strong growing kinds too short. e called Hybrid Perpetual Roses are made up in various ome of them are crosses of the China with the Damask d might more properly be called Hybrid Chinese. Such greater part of the so-called Hybrid Perpetuals. They but once in the season. Some Hybrid Perpetual roses are ful, but wanting in fragrance; others lose color in a shower purple, while others look bright. The very full double not open well; the long, pointed buds with large petals t- Some have weak stems; others are weak growers. an Houtte is, perhaps, the most perfect dark rose, but it is grower, and has a tendency to bloom itself to death; but ter defect is within the control of the grower. Marie Bau- and Alfred Colomb are two of the best roses; the former is arly in the season, and with care can be grown satisfactorily. re fragrant and, in good cultivation, bloom more than once season, and the blooms are always good. Some varieties bled by mildew, which spreads and affects others.

Moore next went over and criticised the list of forty-eight Perpetual roses, recommended by a Committee of the two years ago. The classification by colors is often pink and rose are often confounded. Baroness Rothschild e color, though pink rather than blush, and beautiful to both in flower and foliage, but it has no fragrance, and is t particularly satisfactory out-doors. La France is a Hybrid es, a poor grower, and does not open well. It is about as tender as a Tea rose, and is not valuable for forcing to sell. John Hop- per is classed as pink, but is more exactly rose and carmine. It seldom blooms more than once, and has little or no odor. Fran- çois Michelon is not pink, but rose; it has thin petals and a poor stem. Marguerite de St. Amand is bright rose; it does not open very well. Marquise de Castellane is rose color; it blooms more

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Thiers is of a peculiar color; a little wet turns it purple.
s pretty constantly. Richard Wallace is not wanted in
re varieties. Thomas Mills is rosy crimson, a strong
looms two or three times a year, and is a fine garden
is Van Houtte is fine in form and color, and fragrant,
r grower; it wants a warm location. Mons. Boncenne
on color, hardy and good, but blooms only once. Abel
velvety crimson and very fine, but blooms only once.
bo is deep crimson and a fine rose, but a poor grower.
is deep velvety crimson, like Prince Camille de Rohan,
; it is fragrant. Pierre Notting is deep crimson and
rant, and one of the grandest roses, but does not open
sher Holmes is an improved Gen. Jacqueminot, for out-
e; it is of the same color, and a free bloomer and fra-

more presented the following list as his choice for twenty-
:

A Morrison,	Étiènne Levet,
as Finger (Hybrid Tea),	Alfred Colomb,
ness Rothschild,	Charles Lefebvre,
Hopper,	Marie Baumann,
ançois Michelon,	Mme. Victor Verdier,
rquise de Castellane,	Maurice Bernardin,
ne. Gabriel Luizet,	Mons. E. Y. Teas,
ign a Charta,	Thomas Mills,
ouis Van Houtte,	Pierre Notting,
abel Carrière,	Fisher Holmes,
avier Olibo,	Baron de Bonstettin,
Rosière,	Rev. J. B. M. Camm.

on de Bonstettin resembles Mons. Boncenne, but is better.
s J. B. M. Camm is one of the finest; the color stands well.
l good to have in the garden. Duke of Teck is bright crimson,
good grower, and far superior to most of the new varieties;
mong the many new ones which Mr. Moore has imported, not one
ut of ten would be equal to it. Mrs. Harry Turner is claimed in
England to be the best rose; it is a good grower, with handsome
scarlet crimson flowers. Good roses cannot be had for nothing;
every one who wants them must pay for them, and the price is

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gives potash and bone, and if liquid manure is
it weak, but early and often.

lt obliged to Mr. Moore for his careful examina-
of roses. It is an established principle that plants
fed while in a dormant state, and especially that
should not be applied. Liquid manure should be
. Mechi's rule was that it should only color the
Ilder uses cow manure because it is so mild; he
gunny-bag, and this into a great cistern, and never
at dilution. It has a most sensible effect on all his
e never gives it to them until they are ready to take

e said that his method of making liquid manure is to
tub and place two strips of board across it, and on
a flour barrel filled with manure, and having holes
Water is then poured into the barrel and leaches into
hen the strength of the manure is exhausted, the barrel
l and filled with fresh. The liquid manure must be
use.

enry W. Wilson thought that some method of sub-irriga-
d be devised for applying liquid manure. The principle
practically wrought out in California already.

. Wood said that Mr. Moore had made roses a special
nd his directions for their culture were given fairly, plainly,
aestly. The speaker had most of the kinds on the list
ended, but had never seen any really good white roses.
ught that if five out of a hundred rose bushes were white, nine-
of all the rose-bugs would be found on the five white ones.
ance, which is so tender here, in France is marked highest,
ing that we must make great allowances in reading European
s on the rose. He would grow Baroness Rothschild for the
of a single flower, and the foliage is very beautiful. He
ts his roses in rows three feet apart, and two feet apart in the
s, and banks up high in autumn.

Mr. Moore said that he put his rows four feet apart in order to
rk between them with a horse.

Mr. Wood said that he had found no difficulty in the less space.
fter banking up he fills in between with manure, and when he
auls away the earth in the spring, he mixes the manure with it.
Louis Van Houtte, when in perfection, is the best rose grown;

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Mr. Ellwanger scales it at eighty points in all respects but *vigor*, which he rates at zero. The speaker has a plant which has bloomed well for six years with no extra care. He would place Alfred Colomb at the head of the list. The greatest improvement of the rose is in endowing it with continuous bloom. Many persons object to planting roses, that they bloom only two or three weeks, but with proper selection of varieties they may be an ornament every day. Mme. Alfred Rougemont blooms all the time, and for bouquets and vases is one of the best. Mr. Hovey thinks it is a little tender, but the speaker had not found it so.

Joseph Clark recommended the Baroness Prevost as being, though an old rose, a very fine bloomer through the summer.

Mr. Strong asked whether any one had had any experience with the Triomphe d'Angers. It is not an exhibition rose, and changes color, which makes it objectionable to florists; but there is no rose that he had found so free flowering, and he thought it would be satisfactory to the public. He intended to cultivate it so as to bring it in as a substitute for the Gen. Jacqueminot at Christmas.

C. M. Atkinson thought that giving too much prominence to fragrance in judging roses by points, would have a tendency to throw out really good roses. He would instruct judges not to be too particular in regard to fragrance. The more double a rose is — that is, the more the stamens are turned into petals — the less chance there is that it will be fragrant. He enjoys Tea roses most in their last stages, because they are then most fragrant.

Mr. Moore said there are many roses which have no fragrance, that he would not discard, but he should consider them more valuable if they were fragrant. A rose destitute of fragrance may yet take a prize. The Cornelia Cook is a Tea rose without fragrance. He questioned Mr. Atkinson's view that very double roses are not so fragrant as less double varieties. The Alfred Colomb, E. Y. Teas, Marie Baumann, and Rev. J. B. M. Camm are all extra double and very fragrant.

Mr. Strong remarked that some Tea roses have positively disagreeable odor, and that every one might not agree with the judgment of an awarding committee in regard to the fragrance of roses.

Mr. Moore thought that if a rose possessed a disagreeable odor — like that of the skunk cabbage for instance — there would be no difference in regard to condemning it. Every one knows and loves the peculiar odor which we call the fragrance of the rose.

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ilder exhibited two seedling Chinese Azaleas in flower at
from seed. Last year he exhibited plants which showed
le vigor at a year from seed, and expressed the belief
ould have them in bloom at two years. He was himself
d at such early flowering, as were M. Van Houtte and
ivators whom he informed of his success, for it was never
to be possible. He has quite a number of these seed-
ing on.

was given that the subject for the next Saturday would
'Culture of Currants, Raspberries, Gooseberries and
ries," to be opened by James Comley.

BUSINESS MEETING.

SATURDAY, March 17, 1883.

djourned meeting of the Society was holden at 11 o'clock,
sident, Hon. FRANCIS B. HAYES, in the chair. No busi-
ing brought before the meeting, it
urned to Saturday, March 24.

MEETING FOR DISCUSSION.

ture OF CURRANTS, GOOSEBERRIES, BLACKBERRIES, AND RASPBERRIES.

as expected that the discussion would be opened by James
y, but as he was prevented by illness from attending, the
sident called on Benjamin G. Smith, who said that he had to
tend with a stiff clay soil in his garden, but in one corner he
found a deposit of reddish sandy loam, of which he had two
hundred cartloads spread on the garden, and the whole under-
drained, subsoiled, and enriched with barnyard manure, and he
had been fairly successful in cultivating gooseberries and currants.
He had cultivated English gooseberries for eight years without
mildew. He manures them freely and prunes severely. It is
impossible to get good fruit from them without strong, healthy

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foliage. The currant worm is the greatest obstacle to success, but he dusts with hellebore two or three times in a season, which keeps them from doing much injury. He prunes the bushes as carefully as he does his grape vines—some on the spur system and some with long shoots, and finds both equally successful. He used to mulch them but lately has not, and they have done equally well. English gooseberries must be shaded from the hot noon suns; his are planted on the north side of a high fence, twelve or fifteen feet from it. Currants also do well in the shade. Though it has been said that they should be renewed every five or six years, he cultivates the same bushes that he did fifteen years ago. With these, and also with his raspberries, he aims to produce the best fruit without regard to quantity.

John B. Moore was next called on, and said that the blackberry is one of the best fruits when well grown and ripened. The great difficulty with it is the winter-killing of the canes. The Dorchester, Lawton, and Wilson are tender, and the Snyder, Kittatinny, and Wachusett are hardier, but the fruit of the last named is small and of inferior quality. In field culture blackberries must be grown on high land, without manure, otherwise the canes will be tender. They are all hardy in the roots. The speaker knows persons in Weston who cultivate the blackberry largely, and lay down the canes and cover them. If they grow too rank in summer the canes must be shortened. He has thrown aside the Wachusett and others, and last year planted the Snyder, and is testing others in regard to profit as well as quality.

He has grown raspberries to a considerable extent; there are some that are called hardy, but he knows none that will not be injured by the winter. There is some question in regard to the best varieties. He has grown the Herstine and it is of good quality, and good for field culture, but he wants something better. The Saunders is a little better for field culture. In a rich soil where they will grow well, raspberries should be planted in rows six feet apart, and from two and a half to three feet apart in the rows. It is a mistake to plant in hills as is commonly done. He sets a braced post two and a half or three feet high at each end of the row, and stretches a galvanized wire, with a stake every thirty or forty feet to support it. The canes are tied to this wire, reasonably tight, with cotton twine. They are spread about six inches apart, and do not smother each other. This method of support-

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:r than stakes, and it permits of cultivation by
h should be used as far as possible. Most kinds
which should be chopped off, or there will be
ıoots. In the fall the canes should be laid down,
ıuch work as would be supposed. It takes two
›rk to advantage; one to hold the tops down and
'ow on the earth until they are fastened down.
l and throw a shovelful of earth against the first
:hey shall not be bent too short; then bend them
a shovelful on the tops, so as to keep them down,
when all are thus fastened go over and finish cov-
l should first be stirred with a cultivator. They
vered and lifted up as soon as the ground is thawed,
rt too soon. Mr. Moore cuts out the old canes as
ıve fruited, though he could not say that it is any
ving them until they are laid down. Currants do
ff than on a sandy soil, and will grow in the shade.
said it is true that the soil should not be stirred in
ound gooseberries, unless it is done very early. It
in August, but manure should not be applied late in
The growth is made early in the season, and it is
ırt them into late growth, He uses coal ashes on his
nall fruits, and finds they are more vigorous where it
The best English gooseberries are Woodward's White-
ıngton's Glory, Glenton Green, and Yellow Amber;
'e varieties, the Downing and Smith's Seedling.

'ood said that currants are easily grown, and are relia-
ght be more generally grown with profit than they are.
ose sold in Boston come from Connecticut. Mr. Smith's
gard to their cultivation are correct, as is shown by the
:s which he takes. The main variety for profit or for
is the Versaillaise, which invariably takes all the Socie-
for red currants. It has been complained of as not
nd it is true that it will not give good crops year after
lected under a stone wall as farmers used to grow cur-
:urrants will not stand neglect, but Mr. Smith's experience
or twenty years shows that, with care, they will endure
g time. He cuts out all the old wood and gets new, and
em well. The currant will flourish in partial shade, and
fore, well adapted for small gardens. Mr. Smith's success
ɔseberries has been remarkable.

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Raspberries and blackberries will produce good crops with less manure than currants require. The quantity of raspberries shown at the exhibitions of the Society has lately been curtailed by the loss of plants during winter, but the speaker had heard reports of more profit from their culture than from that of any other small fruit. No variety is perfectly hardy; he cultivated the Clarke for seven or eight years, and lost none except one year. More Franconias are shown at our exhibitions than any other variety, and none is more reliable. For the last three years the Saunders has taken the first prize; it is of better quality than the Herstine, though less attractive. The Saunders is soft, but good for home use. The speaker saw a most beautiful show of Dorchester blackberries on the grounds of J. B. Case, in Weston. They were set in rows eight feet apart, and the plants four feet apart in the row, and tied to wires stretched four or five feet from the ground. A row of posts was set on each side of the row of blackberries and three feet from it, and on these the wires were stretched. They were topped at six feet in height. The soil was strong, and the ground was covered with meadow hay, which was allowed to remain. After the canes had ripened they were bent down and covered with earth and hay. A fair top-dressing was given in the fall, and they had been thus cultivated with uniform success for a series of years. The speaker had never seen such an immense crop. He has a row of the Kittatinny from which he never lost a crop. The quality is very good, and the fruit brings a good price. It is more hardy than the Dorchester, the early canes not being winter-killed. We want something more reliable in blackberries than the Dorchester, and which shall not be too much expense to protect, such as might be produced from a cross of the Dorchester with the Snyder, or something more hardy.

George F. Wheeler said that the Snyder and Wachusett are grown at Concord more largely than other blackberries. We have not yet got a variety that will endure the winter without laying down. It is not of much use to cultivate them if you have not the right soil; a light soil is not good; they want something stronger, either rocky or clayey. Mr. Case's soil is better than a lighter one. Last year there were few blackberries, owing to the winter-killing of the canes, but last summer was dry and the wood ripened, and has probably come through the winter better. He had been most successful with the Clarke raspberry; the Franconia wants a rocky or

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his ground it was feeble, and he discarded it. The
a great bearer, but the color is poor for market.
e is of feeble growth, but hardy and bright looking,
quality is not approved in exhibitions, it is fine for
rings good prices. The Cuthbert is a strong grow-
killed last year.

W. Wilson said that we had heard how to make
rofitable, and he would say something for those who
t for their own tables. He trains the Lawton black-
lat fence, preferring the north side, and pinches the
to cause them to make laterals, and gets a profusion
ch is perfectly bewildering. The bunches of ten or
es each were all ripe at once. The blackberry is not
ler, but will grow in any good garden soil. All small
mineral salts—phosphoric acid, potash, and lime—and
be grown in proper soil, or you will get no satisfactory
The soil should be trenched, which is not expensive. The
preparation of the soil is as profitable on a large as on a
le. However fine the fruit which we see in woodland
, we can produce finer in the garden. Mr. Smith's clay
s probably the wash of diluvial moraines, and the coal
netrates and lightens the soil. The blackberry wants water
elling off, and hence the benefit of mulching or turning on
n of water. Col. Wilson's raspberries are planted on a
n slope—a clayey soil with a sandy subsoil,—and trained
ugh barrel hoops, and supply two families. The currant
rive in absolute shade, where no sunlight reaches the soil,
has given up its cultivation on account of the currant worm.
h is one of the constituent elements of granite, and having
ion to quarry thirty or forty thousand tons of stone he noticed
the quarrymen carefully saved all the fine dust for use in their
ens. It can be composted with lime, and will furnish potash
ist the right quantity for the soil. Feldspar gives twenty-five
cent of caustic potash, and the speaker hoped we should be
e to develop several such deposits. All salts for fertilizers
uld be neutral.

William H. Hills, of Plaistow, N. H., said that he cultivated
e fruits under discussion in a small way, growing them for his
ble and selling the surplus. He examines all the new things he
an, and was surprised that the new varieties of these fruits had

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not been spoken of. If the stories told in the catalogues are true, they will give us all we want, without the need of either cultivation or manure. He does not tie up his raspberries, except when the snow has broken them down. He clips them with hedge shears when they are about three feet high, and the blackberries when they are a little higher; but this must not be done when you want to multiply tip-rooting raspberries. He goes over the plants at two or three different times, and clips the tender ends as they reach the desired height. If neglected till the more advanced canes become hard, they will not branch and form a bushy top. He cuts back the branches when a foot and a half long. He thought he could not afford stakes. He had found the Turner raspberry entirely hardy, never having a tip injured, and the same is true of the Snyder blackberry, which sets fruit very bountifully, but he feared that it would prove too small. In New Hampshire there are blackberries and raspberries growing wild, and people ridicule the idea of cultivating them, when they can, as some claim, pick fifty bushels of wild ones at their doors; but the cultivated ones are superior, if they are allowed to ripen. The speaker recommended to young men to examine wild varieties and select the finest, and they would often find one of superior quality, which they should transplant and cultivate, or save the seed of. Most of the superior varieties have been produced in this way. The men who recommend the Souhegan (Black Cap) raspberry, are those who have large quantities of plants, bought of the originator. The currant worm strips the bushes of their leaves so suddenly that it must be very carefully watched.

Mr. Hills has a cold grapery containing twenty varieties, where he has no trouble with mildew, sulphur being sure death to it. He had a Hartford Prolific grape vine trained on his house, the fruit of which mildewed, and he heated bricks and placed under the vine and sprinkled with sulphur, and could smell the fumes of sulphur every time he passed by for a week. With sulphur sprinkled on the ground, he got as good results from the heat of the sun. The mildew made no progress after the application. He thought sulphur might be applied to gooseberries to prevent mildew.

Hon. Marshall P. Wilder said that in Mr. Hill's location, the raspberry is covered with snow. By clipping and causing the growth of laterals, he causes the wood to ripen, and makes a com-

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lant of a tender one. The speaker had found
ctly hardy except the Turner, and here the others
ı, as directed by Mr. Moore, which is easily done
are cultivated. He thought Mr. Moore's system
l one. The Franconia raspberry is about as good
have ever had. Knevett's Giant is of the finest
: tender and more difficult to grow. Good as the
em, Brinckle's Orange is more delicious for ama-
little tender. If he could have but one raspberry
he Souchetti Blanc, which has become a standard
unt of its long and abundant bearing. He has the
rant planted in the lines of his pear trees, and sells
red to one hundred and fifty dollars' worth every
e most profitable variety, and was introduced by
)pe, as were also the Hornet, Knevett's, and Sou-
ies. Dana's Transparent is the finest white currant,
ıltivating for ornament. The Dorchester blackberry
d by Eliphalet Thayer, of Dorchester, who first
efore this Society on the 7th of August, 1841, and
ı the speaker went with the late Cheever Newhall to
;. He has never found it tender, and has never failed
In his location he has the influence of the sea air,
ts injury from frost.

ıitions by outrageously exaggerated descriptions of
:e a national and a moral evil. If any one of them
ıere near the recommendations given, we shall never
ng more. It will not do to encourage them. He is
l without trying all the new things under his own
d just received, in his old age, a case of plants from
If we get one fruit out of fifty as good as the Franconia
r Versaillaise currant, it will be worth all we have spent.
Iolmes said that he had grown the Red Dutch currant
e variety as old, and also the Belgian or Grand Impe-
ersaillaise, and the Cherry, and the last is ahead in size,
quently most acceptable in the family. The Versaillaise
size and more prolific, but none excel the Red Dutch in
The Belgian is a little later than the others; he has it
middle of September, and has an ample supply for the
It grows up in tree form, and makes the strongest wood
He got the plants from Capt. Davis, of Arlington. He

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finds three broods of currant worms; the first from the 12th to the 16th of May; the second about the 25th of May, and the last from the 15th to the 20th of June. The eggs are laid on the under side of the leaves, and the insects at first are almost microscopic in size. He applies a strong infusion of hellebore with a syringe, instead of dusting with the powder, and in this way reaches the young worms on the under side of the leaves, and has succeeded in getting good crops. The worms must be carefully watched, as they will sometimes spoil the bushes in forty-eight hours. He cultivates gooseberries, and gets all the fruit he wants, without any trouble from mildew; he has an old English variety which is a prolific bearer, and has given satisfaction. He agreed with all that had been said to the credit of the Franconia raspberry; it has stood the winters with him, while the Clarke stood two winters, and the third nearly every cane was killed. He cultivates the Lawton blackberry, but the canes are too stiff to lay down, and are largely winter-killed.

William C. Strong said that he belonged to the class which publishes catalogues, and in his cultivation of small fruits, he wished to produce plants rather than fruit, and therefore, allowed the suckers of his raspberries and blackberries to grow. The Taylor's Prolific blackberry had proved as hardy as the Snyder, and perhaps larger, and it gave such a profusion of fruit as he had never witnessed. In regard to mildew, prevention is better than cure. The exemption of Mr. Smith's English gooseberries, is largely owing to the position of his plants, where they are partially sheltered from the sun and have the advantage of humidity. For clipping raspberries and blackberries an old scythe blade fastened to a handle is more effectual than shears.

Robert Manning said that he had found the Dorchester blackberry so tender that he always covered it. He had bent down and covered a cane measuring over thirteen feet in length, besides laterals. Knevett's Giant raspberry is one of the finest varieties, and will sometimes stand the winter, but to be sure of a crop they must be covered.

Mr. Moore said that the Franconia raspberry wants high, rocky soils, and that there are better and more productive kinds. It does not stand as well as it did ten years ago, and does not succeed with him. He prefers the Saunders, Herstine, or Northumberland Fillbasket.

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. that his soil, where the Franconia flourishes, is

that his soil is clayey like Mr. Wilder's, and he
anconia there from the same stools for twenty-
. is as good now as ever. It does not make as
other kinds.
en endorsed everything that Mr. Smith had said
Franconia. He has stools that have stood for
the same place, and he did not recollect manuring
e times. Two years ago he had canes ten feet
not trim them until he laid them down.
id that he did not object to the Franconia except
ons. It will not succeed with half the cultivators.
ith leaf blight.
ed whether the Taylor blackberry is distinct from

lid not know that he could state the difference in the
of the two varieties, and his Taylors are in an
nt soil from his Snyders; but the Taylor is amaz-

said that the Taylor is a freer grower than the
ne fruit is larger.
recommended the cultivation of the Low Blackberry,
he had seen it very fine in Connecticut.
said that raspberry or blackberry canes, not topped,
r shoots and give larger fruit.

ounced that on the next Saturday Edmund Hersey
paper on "Preparing and Fertilizing the soil for the
lants."

BUSINESS MEETING.

SATURDAY, March 24, 1883.

rned meeting of the Society was holden at 11 o'clock,
nt, Hon. FRANCIS B. HAYES, in the chair.

arshall P. Wilder, Chairman of the Committee appointed
s previously to prepare a memorial of Arthur Bryant,
s follows:

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He had been long acquainted with Mr. Bryant, and felt it a dut
to do what he could to perpetuate his memory. Mr. Bryant w
an educated man, under the tutorship of his brother, William Cu
len Bryant, the poet, with whom for a time he was associated
the New York Evening Post. He was a thorough scholar, emin
for his knowledge of Greek and Botany, and for his love of
beautiful in nature. He was especially interested in the conse
tion of our forests and in the planting of new ones. He was
author of a book on "Forest Trees for Shelter, Ornament,
Profit;" was a pioneer nurseryman in the west, President of
Illinois State Horticultural Society, and Vice-President of
American Pomological Society for that State. His decease
been widely noticed by the press, and as a son of Massachus
and a Corresponding Member of this Society, it is fitting that
too, should preserve in our records a remembrance of his ser
and worth. Therefore be it

Resolved, That in the death of Arthur Bryant, Senior, a
responding Member of this Society, we have, in common wit
whole country, to deplore the loss of one of our most distingu
pioneers of horticultural science, rural adornment, and the p
vation of our forests.

Resolved, That in the character of Mr. Bryant we recogni
instinctive love of home, country, and the progress of rural a
ment, and the virtues of an enterprising, upright, and Chr
gentleman.

Resolved, That a copy of these resolutions be forwarded t
family of the deceased.

MARSHALL P. WILDER,
BENJAMIN G. SMITH, } *Commit*

Benjamin G. Smith seconded the resolutions, remarking th
had much pleasure in the acquaintance of Mr. Bryant, who b
strong resemblance to his brother, the poet. Mr. Smith a
that Mr. Bryant was a student at the United States Military A
emy at West Point.

Leander Wetherell said that when at an academy at Cumm
ton, Mr. Bryant's native place, he visited his home and had
pleasure of meeting him. He was much impressed with the
ful scenery of the town, amidst which Mr. Bryant grew up.

The resolutions were unanimously adopted.

Adjourned to Saturday, March 31.

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ETING FOR DISCUSSION.

PREPARING THE SOIL FOR THE GROWTH OF PLANTS.

By EDMUND HERSEY, Hingham.

signed to me covers so wide a field for thought, ved for the opening essay is not sufficient to give the principal points. I have therefore confined ints: — First, the power of plants to gather up ; and, Second, the condition of soil to grow crops tage.

left to herself, has ways of her own for fertilizing he soil for the moderate growth of native plants, emands of her an excessive growth of either native s, and removes from the soil both the stalk and the es to comply with his demands unless he makes to assist her, by the application of fertilizers and ; of the soil, to supply the increased demand thus

e make an attempt to produce more than a natural getation on any soil, if we would work to the best need to know something of plant growth—a subject cely enter upon before we find ourselves surrounded ninute complications, shrouded in mystery, yet always the same results.

the pink, and the strawberry will grow side by side, ngling together in the same soil, and the branches and wining in, and surrounded by the same air; yet the athers up and manufactures the particular substance produce the wood, the leaf and the flower of the rose, nk, from the same sources, gathers up materials neces- luce the stalk, the leaf, and the flower of the pink; and erry gathers from the same soil and air the material , not only the stalk, the leaf, and the flower, but also the uit of the strawberry, and each from the same sources the delightful odors, so peculiar to the flower of each ompare the fruit of the strawberry, with that of the rose, e seed of the pink, and how unlike they are, yet the roots s feed upon the same materials.

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The question arises, "Do the leaves and roots of plants have the power of selection, and of taking in precisely what is required to produce all of the peculiarities of each plant? Evidently, they do not, except to a limited degree. If they did, would they not refuse to take up poisonous substances, which they sometimes do in such quantities as to destroy the life of the plant? Must we not come to the conclusion that each plant is provided with a laboratory wherein is manufactured the particular substance required to produce all of the peculiarities of the plant and the fruit; in fact, is there not much evidence to prove that each minute cell, of which plants are composed, is complete in itself, and capable of manufacturing out of the substances drawn up through the roots and absorbed by the leaves, a material which will produce another precisely like it, and also a material possessing all the peculiarities of the fruit of the plant, which the stalk and leaf represent? We get some evidence of this if we take a seedling apple tree, with two branches, grafting one with a scion of the Sweet Bough, the other with a scion of the Baldwin apple. As the material in each branch of the tree is drawn up by the same roots, there must be no doubt that the material which enters the wood of the scion of the sweet apple, is precisely the same as that which enters the wood of the scion of the sour apple. Yet, when the material acted upon by the air drawn in by the leaves, in the cells of the wood of the sweet apple, the result is the formation of the material necessary to produce the form, color, and flavor, as well as the keeping qualities of the Sweet Bough; while that which enters the cells of the wood of the sour apple, produces that substance necessary to produce the form, color, flavor, and keeping qualities of the Baldwin apple. To discover the difference in the structure of the cells of these two varieties of apples, requires higher perceptive powers than have as yet been given to man. We can know the results; in contemplating them we are lost in wonder and filled with admiration at the perfectness of structure and the positiveness of action of these minute germs of vegetable life.

The more closely we examine the vegetable world the more perfect we find it, and the higher is our admiration and the stronger our love for that Supreme Intelligence which governs the universe even to the smallest germs of animal and vegetable life.

I have thus apparently diverged somewhat from my subject, but it has been done to call your attention to the power of plant

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up the fertilizers applied to the soil and convert them into
nces that represent the peculiarities of each plant. The
t tells us that the three principal substances which we need
ly to the soil to assist the growth of plants, are Phosphate,
and Nitrogen. Chemistry also teaches us that plants con-
ge quantities of carbon; but we are taught that carbon in
of carbonic acid is floating in the air in sufficient quanti-
pply the wants of growing plants. This may be true,
ably is where only a natural growth is required, but
excessive growth is required there appears to be good
prove that a larger quantity is beneficial. The atmos-
ne only about six parts of carbonic acid to each ten
-te, while the air in good garden soil contains more
ndred parts, and a newly manured field during wet
-e than one thousand parts to each ten thousand. As
n well manured land grows very rapidly after a shower,
t that the large quantity of carbonic acid which must
be in the soil does no serious injury, but some good.
be, and probably is, a point beyond which it is not
ish carbonic acid for plant growth, but it evidently is
-eached in the cultivation of plants in the open air.
ce of large quantities of carbonic acid in the soil is
be beneficial, not so much by direct action on the
lants as by its action on the soil, dissolving valuable
ements, and rendering them available for plant food.
izing the soil we should ever keep in view the fact that
g which enters into plants must first be reduced to atoms;
also well to keep in mind the fact that nature has won-
wer to assist man in this reduction. If we apply coarse
s to the soil, the heat, the air, and the moisture commence
the work of decomposition, the rapidity of which depends
character of the materials applied, and the manner of its
ation.

our principal object in the preparation of the soil is to en-
ge rapid plant growth, we should endeavor to make ourselves
liar with those conditions necessary to accomplish this pur-
e. It being already understood that all fertilizing materials
ore becoming plant food must be first reduced to atoms, and be
a character to mingle with both water and air, it is evident that
the application of fertilizers we should make an effort to place

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them where they will change into atoms fast enough to supply the wants of the growing plants, and it is also evident that the soil should be changed into that condition best adapted for the rapid decomposition of coarse materials applied. If we apply stable manure it should be placed where it will receive the heat of the sun, the oxygen of the air, and the moisture of the earth; all of which act on the materials of which the manure is composed, separating the mineral from the gaseous portions, and reducing them to minute particles. Good cultivators have learned that rapid growth is best secured by thoroughly mixing the manure with well pulverized soil, keeping it within a few inches of the surface; this is because the light, pulverized soil readily admits the heat, air, and water.

The fact should not be overlooked that for rapid plant growth the soil should be made light by considerable quantities of partially decayed vegetation. A soil with all of the coarse particles removed, by sifting through a fine sieve, would not be as well adapted to the rapid growth of plants, as a soil lightened up with partially decayed vegetation, for several reasons. First, because being more compact, the air is in a great measure shut out. Second, the particles of earth being so fine, there is nothing to keep it from becoming soggy with the first rain, and becoming firm and hard as soon as it dries. Third, there being no vegetation to decompose, there can be no rapid manufacture of nitric acid, or nitrous acid and ammonia, and in fact no carbonic acid, all of which are necessary for plant growth, and also necessary to produce a chemical action on the soil. Whenever we apply highly concentrated fertilizers to the soil, we should always do it in connection with coarse manures, or apply it to soils already rich in partially decayed vegetation.

It should always be our aim to keep the soil so light and loose near the surface, that the air and moisture will have a free circulation through several inches in depth, for these are the true elements which join hands as messengers, and unite with the atoms of phosphate, potash, lime, silica, nitrogenous compounds, and other materials, and when united carry them to the roots of the growing plants.

In preparing the soil for growing plants, there is still another point that should not be lost sight of, which is, that if we would secure the most rapid growth, we must not only have the soil so

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he air and moisture will readily circulate through it to the depth of several inches, but we must also lled, during the period of plant growth, with all the ant food in that particular form necessary to readily th the air and water; yet if we would use economy tions, we must avoid applying more fertilizers in a than the plants can consume; especially is this true ıs compounds.

plies a hundred cords of manure to the acre, manu- ogenous and carbonaceous substances more rapidly ıt vigorous growing crops can consume them. While crop might be larger than if only twenty cords had l, it would be grown at a much less profit, except under ordinary circumstances; for plants, like animals, can ıly a limited amount of food; and plants, like animals, ıem healthy, must have food containing the different n the right proportions. For example, if we should e quantities of nitrates to the soil, with no phosphates s, our plants would refuse to grow with any vigor. So other single element.

k judiciously, we must work intelligently, and apply to the proper proportions of each element; this is a work y accomplished; for though the chemist can tell us what nt is composed of, he cannot so readily tell us from what ır source each element is derived; and as few of the mate- plied as fertilizers have passed into the form of available od, we are compelled to judge how rapidly they will change, annot tell what quantities it is necessary to apply to furnish ırticular element as fast as needed by the crop.

o department of agriculture is light more needed than in hich relates to the application of manures. It is very easy ke an expensive mistake, by applying more manure than h to supply all the wants of the growing crop, and by applying uch condition, or in such manner, that it will not have become food until long after wanted by the growing crop. Thus the s suffer for the want of food while surrounded with more than ient, but in a state that cannot be taken up. When coarse ıre is covered up eight or ten inches in depth, and permitted main undisturbed, it must not be expected that it will be con- d into plant food as quickly as if applied within a few inches

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of the surface, where it will be disturbed every time the crop is cultivated. While it is important that a portion of the fertilizers should be applied in a condition and in a manner to furnish plenty of food to the young growing plant, it is also important that a considerable portion should be applied in a condition and in a manner to furnish food to the maturing plant and the ripening seed.

In high culture, care is taken to keep the land filled with fertilizers in different stages of decomposition, that the plants may, in all stages of growth, have plenty of food: but in ordinary field culture, we do not usually do this, therefore we often fail to get a good crop; not because manure enough has not been applied, but because it has not become plant food at just the time needed by the growing crop.

He who would be a successful cultivator should be a close observer of nature, and should strive to become as familiar with the wants of growing plants as he is with the wants of farm animals; for to tend and feed growing crops with the greatest economy, requires quite as much intelligence as to care for, and feed, cattle successfully.

The farmer who should gather up winter fodder for his cattle, and then leave it in the open air to waste its nutritive qualities, would be considered as adopting a very wasteful practice; but the same farmer might compost all of his manure in the open air, and leave it six months without exciting a single remark; yet the manure, in the process of decomposition, will lose a considerable portion of its plant food, and will also have its power to create important chemical changes in the soil greatly reduced. It is believed by some that, when vegetable substances are decomposed in the soil, nitrogen is manufactured, by a process not yet understood, in quantities so large that a portion of it must be drawn from the air.

It is becoming more and more evident that, in field culture, barn manure should be applied in a fresh state, and so mingled with the soil as to encourage rapid decomposition, and thus create a mechanical as well as chemical action on the soil, which is highly beneficial to the growing crop, and which would be lost if decomposition was permitted to take place in the compost heap.

In conclusion, I would call your attention to the fact that the over application and misapplication of phosphate and potash, does not result in that loss which is caused by the over application and

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tion of materials containing nitrogen and carbon, because, soil is filled with molecules composed of mineral sub- ater and air, to an extent far beyond the capacity of bsorb, when they reach the surface of the soil the water , and the air mingles with its native element, thus sepa- n, and leaving in the soil unconsumed, the mineral ele- t when the soil is overcharged with molecules made up of , and nitrous acid in combination with ammonia, or car- ammonia, the moment they come to the air they mingle nd are thus lost, so far as relates to any future advantage il.

this the natural conclusion is, that in fertilizing the soil wing crops, we may apply with a liberal hand both phos- and potash without fear of loss, except by leaching; but hen we apply those elements of fertility which change to a us form, it is not, as a rule, economy to apply them in quan- much larger than the growing crops can consume.

Discussion.

ohn B. Moore said that away from cities it is becoming a ous question how we are to grow crops, and restore and keep he fertility of soils which have been depleted by over produc- . The essayist is right in the belief that chemical fertilizers uld be applied in connection with coarse manures. Market deners can see no benefit from chemical fertilizers; but how uld they, when they apply along with them as much stable ure as the crop needs? The speaker had seen very large crops corn grown year after year, with chemical fertilizers. But the estion comes up, how are we to get them? For, at present, it is dent that they cost more than farmers can afford to pay for em, though they are better than formerly. The nitrogen which ey contain is from various sources. They are all valuable, but is useless to apply them to plants which are not in vigorous rowth. He had seen a dressing of nitrate of soda applied to grass in autumn, when it was utterly useless. It disappeared either by leaching or evaporation; but, if applied in spring it would have caused a heavy growth. The lysimeter does not show any loss of potash and bone by leaching, but it does show a loss of nitric acid in the winter, but not in the growing season. He

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had found by experience that it is unnecessary to pay any attention to providing a supply of nitrogen, but is of the opinion that, with the ordinary methods of manuring, Nature will provide a sufficient quantity. He believes that it is manufactured in the soil by the condensation of the nitrogen of the atmosphere, or enough is supplied by the decomposition of stable manure. Constant cultivation and stirring of the soil causes it to absorb nitrogen from the air. Of two pieces of corn or cabbages, one of which is frequently stirred, and the other is not, the former will be much better than the latter; and this superiority is not due to mechanical action alone. But it is necessary to provide potash and phosphoric acid. No chemist can tell in what form any substance will be fifteen minutes after it is put into the soil.

Col. Henry W. Wilson said that in preparing soil for the growth of plants it is not generally stirred more than from six to ten inches in depth, but he thought the deeper it is stirred, inside of four feet, the better. A box of earth four feet in depth, will hold all the moisture necessary to support vegetation. No plant can be induced to send its roots below the water table — that is, the level at which water stands in the soil. If this is too high, it must be lowered by draining. He could judge by the character of the grasses on a given soil whether it needed draining. Thorough pulverization in connection with perfect drainage, is the most important operation on the soil. Air is the great disintegrator, and oxygen is its great agent in that work. No form of nitrogen is plant food, but only a solvent. The atmosphere is the great source of nitrogen; all the upper parts are filled with nitrogen clouds, which are absorbed and brought down by the rain. Carbon in the soil is one of the constituents of butter and sugar, and by roasting the soil, the carbon is supplied in a form to be taken up. The essayist spoke of plants absorbing atoms; but no particle of undissolved matter can enter a plant; their capillary organs are so minute that food can enter only in solution. They cannot assimilate particles. Potash is not easily evaporated, and so its virtue remains in the soil for the ensuing year; but ammonia applied in the autumn is lost. All fertilizers should be applied in a neutral form; lime is harmful to land, and so is sulphuric acid, but when applied in combination, as sulphate of lime, the water and air decompose it just fast enough, and all fertilizers should be in such neutral form that the forces of nature will dissolve them.

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pt to make superphosphate of lime by adding sulphuric
e, we shall fail, but if we put water first, and then add
ic acid, we shall succeed.

Wetherell thought that when soil, unless of extraordinary
s trenched four feet deep, the vegetable humus was
).

ılson said that whenever the soil had been prepared so
certain kinds of fruits, the result was beneficial. For
berry it would be an advantage, but not for the grape.

Vetherell said that he has a good farm, and where he
bound out grass land six inches deep, and harrowed the
y, and then applied the Stockbridge formula for corn, and
l again crosswise, and planted corn, he got one of the best
had ever had. An Ohio farmer said that he had never
etter crop. There were eighty bushels to the acre, and the
as not so great in seed as in growth. The late Moses
ıs, of South Deerfield bought an old, worn out farm, in the
cticut valley, with alluvial, where the surface was exhausted,
oughed deep and turned up fresh soil to the increase of his

Mr. Stebbins recommended John Green, at Hadley, to
ı deep, because of his own success, but Mr. Green's soil was
with a gravelly subsoil and little humus, and when the
h was put down deep in that soil, the difference could be
in the following crop; the humus was all turned under the
el. Ploughing must be adapted to the soil.

itrogen is commercially the most valuable fertilizer; some
ıs are highly active and others slow in their action. Ammonia
nitric acid are the most active forms. Seventeen parts of
nonia contain fourteen parts of nitrogen. The speaker thought
amount of nitrogen taken from the air by plants very small;
ver, however, is an exception. Corn and wheat give no per-
ptible proof of having absorbed ammonia from the air. Clover
deep rooted, and brings up food from the subsoil, and therefore
one of the best plants for turning under as a green manure.
hen it has been tried side by side with stable manure it has
rought better corn. This is an important and fertile subject, and
is not exhausted. We want to retain the fertility of our farms
nd to save the cost of commercial fertilizers. The margin of
profit in their use is too small. Professor Johnson says it is a ques-
tion whether farmers can afford to pay the prices of commercial
fertilizers. Professor Atwater says farmers use too much nitrogen.

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Mr. Moore said that Col. Wilson had told us to begin with thorough preparation and drainage, but he supposed that drainage was understood to be necessary. He could tell by the appearance of plants whether they were suffering from too much water. He believed twenty inches as good a depth for stirring the soil as two feet or four feet. He knew that strawberry roots have run four feet deep, but they would not have gone so far if they could have found food nearer. Thirty or forty years ago farmers were told to plough fifteen inches deep for field crops, and they tried it and found it did mischief by covering up the fertilizers from the air, and the result would be the same if Col. Wilson should induce them to do so now.

Col. Wilson asked, by what rule are we obliged to prepare soil with a plough? There are cases where the soil must be stirred four feet in depth to gain the best results, as in making lawns. The question is, what depth of soil will hold so much moisture that the rain which falls on it will be sufficient for the wants of the crop. Strawberries and grass need a great deal of water; grapes need very little. In California, with a drought that endures all summer, vines in the vineyard will ripen thirty pounds of grapes to the vine, whereas in our moist climate many a man kills his vines with kindness by too constant watering. The preparation of the soil is the first element, and must be adapted to the crops.

There are chemical reactions in the soil whereby nitrogen is released. The great source of nitrogen is the atmosphere, which contains eight parts of nitrogen to one of oxygen, and in every expiration of animals all the oxygen is absorbed and almost all the nitrogen given off. Carbon has a greater affinity for potash than nitrogen in the form of ammonia or nitrates. If you put water into cologne it becomes turbid; alcohol and water have greater affinity for each other than alcohol and essential oils, and when potash in a caustic form is mingled with composts containing ammonia, the organic carbon in the compost combines with the potash, and the ammonia is at once released and lost.

Josiah W. Talbot said, in regard to the statement of the essayist that substances must be reduced to atoms before they can be taken up by plants, that the expression is not a good one. They must be either dissolved in water or be in the form of gas, and it makes very little difference which. It is admitted that all plants

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more carbon, and the question comes up, how is car-
ormed? The oxygen in the atmosphere takes hold of
n the plant. When we stir the ground we admit air
s in contact with vegetable matter and changes it into
id gas, which is plant food. Many articles are dis-
he soil and so taken up. Plants will send their roots
here they can get moisture; the roots of elms have been
nty-five feet down. Strawberries will go down to where
get moisture, and in preparing ground we must go so
the sun will not dry the roots. In reclaiming the marshes
ield the ground is sometimes cultivated only by harrow-
it is liable to suffer from drought. The peaty formation
e cultivated deeper.

Jersey said that by an atom he meant the smallest division
r possible, though he might, perhaps, have said in solution,
hought the paper showed fairly that plant food should be
ion. He had been experimenting more than thirty years in
to the depth to which it is best to plough, and had come to
clusion that every man must learn his own soil, and stir
s condition requires. His own soil does not give as good
when stirred deep as when stirred shallow. He had land
ed two feet and a half in depth many years ago, which was
d thereby and still shows the injury. We can only learn
al principles here and must go home and apply them accord-
) the condition of our soils.

on. Marshall P. Wilder said that in cultivation we must
a with draining as the foundation of all success. Soil must
ploughed according to its nature, and must be properly pre-
d, and plant food given at the right time. The finer the
ure is comminuted, the better; and it should be applied near
surface. The late Hon. Benjamin V. French tried the experi-
nt of burying manure fifteen inches in depth, and never heard
m it. The speaker had found by experience that it is better to
ve manure fine and on the surface, and applied in autumn. Air
d water administered at the right time are the great constituents
hich cause growth.

William H. Hunt said that it is the experience of every farmer
at it is difficult to get sufficient fertilizing material. Near Bos-
on it is very expensive, and away from the city, with all the stock
hat can be kept, it is difficult to get enough. There is not suffi-

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cient stable manure to go over the country. At Concord it costs eight dollars per cord, and the question is, whether to buy that or chemical fertilizers. He had bought and manufactured the latter largely, and we must resort to them. Dr. Nichols said that bone and potash make the cheapest and best fertilizer; ashes is the best form of potash, but sufficient cannot be had, and we must use muriate of potash. Farmers who want only a small quantity of chemical fertilizers would do better to buy them already mixed; but those who use a large quantity should buy the materials, and mix them. They cannot afford to use guano. We should plough about as deep as we can manure; in ordinary farm culture we seldom go down a foot; the speaker ploughs from five to eight inches in depth.

The Chairman of the Committee on Publication and Discussion gave notice that, on the next Saturday, Josiah W. Talbot would read a paper on "Sports Physiologically Considered."

BUSINESS MEETING.

SATURDAY, March 31, 1883.

An adjourned meeting of the Society was holden at 11 o'clock, Hon. FRANCIS B. HAYES, President, in the chair.

E. W. Wood, Chairman of the Fruit Committee, reported in regard to the vote concerning fruits offered for Prospective Prizes, which was referred to that Committee at the meeting on the 3d of March, that it is inexpedient to take any action. The report was accepted.

The meeting was then dissolved.

MEETING FOR DISCUSSION.

SPORTS PHYSIOLOGICALLY CONSIDERED.

By JOSIAH W. TALBOT, Norwood.

Mr. President and Members of the Horticultural Society:

In presenting the following paper on Vegetable Sports, permit me, in justice to myself, to say that I lay no claim to new discov-

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ble physiology, but I simply present the facts and
h I have gleaned from the best authors in our valu-

tural phenomenon a *sport*, is to admit our ignorance
laws by which it was produced. To be satisfied
evinces a willingness to remain ignorant. But such
e very common. When, for instance, a branch upon
rose, or any other shrub or plant, produces a blos-
lly different from the others, it is called a sport.
fting, the result is different from what we had reason
call it sporting. When the green leafed laburnum
with the golden, and the shoots below the bud, and
rom the roots were variegated, the new variety thus
s called a sport. So, when the yellow striped jessa-
afted on the white, and the smaller leafed abutilon was
the larger leafed, the two new varieties thus obtained
sports. When, in Amherst, N. H., a large Baldwin
ally grafted near the ground on a Russet stock, threw
twenty feet above the graft, bearing apples that seemed
ss between the Baldwin and Russet, it was called Whi-
rt, after the owner. Tradition tells us that more than
ago, buds of the Golden Sweet and Rhode Island Green-
split and their halves united, produced the well-known
side of which is sweet, and the other sour. This apple
s been called a sport. These are a few of a large class
mena which, appearing to be contrary to natural laws,
n called sports. The term, however, is an unfortunate
ıture never sports. All her laws are immutable. It is
n we cannot comprehend them that she *appears* to sport.
e the above, connected with grafting, cross-fertilizing, or
ing, will never be perfectly understood until men better
ınd the laws of vegetable anatomy and physiology. The
made in this direction within a few years has already
ed many of the mysteries of former times; and is it not
ble to expect that scientific men, availing themselves of
scoveries, with the improved apparatus and opportunities
present, will soon be able to trace what are now called
to natural causes? But let us bear in mind that the
al man, who carefully observes and records natural
mena may be the scientific man, whatever he may be called.

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The better to learn the origin, and understand the nature of sports, I wish to call your attention to a few familiar, but well-established physiological facts and truths. It is not long since the most absurd and contradictory views prevailed in regard to the circulation of the sap. That most trees and plants derive a large part of their nourishment from the soil, will not be questioned. Nearly all writers of note now admit that the crude sap ascends from the roots, through the sap wood, to the upper side of the leaves, where it is elaborated by coming in contact with the air, exhaling the superfluous water and oxygen and inhaling carbonic acid. It then passes into the veins on the under side of the leaves, to be conducted into the chlorophyl vessels in the bark, where it is digested and assimilated on its way into the cambium, where it forms the protoplasm or life principle which circulates to every part of the plant, much as the blood circulates in the animal system. So well are botanists and physiologists agreed upon this subject, that controversy has nearly ceased. From this we obtain an idea of the source of the protoplasm, which originates not only all sports, but all growth in plant life. Another class of well established facts which we must understand before we approach the subject of sports, relates to the *cell structure* of plants. All plants originate in, and are composed of, minute cells. Every *natural* plant or tree came from one parent cell, which had the power of multiplying itself and building up the whole plant or tree. From every parent cell in a plant or tree, whether in root, branch, bud, or leaf, may be developed another plant or tree, which will be true to its kind. No *natural* plant or tree can of itself alone ever change its kind. On this fact depends the permanency of varieties. Keeping these facts in mind, we will now consider the *formation* of the cell. All writers admit that every cell is formed in the cambium by the protoplasm. According to their description, the protoplasm is one of the most wonderful agents in the world. They assure us that it has an inherent power of motion as persistent and independent as the beating of the heart, and even more so, for while the heart is always confined to the same relative spot, the protoplasm changes its locality and performs various kinds of motion and seems to be endowed with a wisdom to foresee and plan, and a skill to execute the most varied operations. It not only forms the cells, but changes their forms to make tubes and vessels

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s, buds and leaves; secretes the gum, starch,
e materials that enter into the composition of
the most delicate blossoms, the most delicious
. to perpetuate its kind, inserts in every specimen
mbryo of itself in the well protected seed. All
the protoplasm. Men witnessing this wonderful
and skill everywhere seen have called it *Nature*,
erence; but let us rather view it as the handiwork
ne, whose wisdom designed, whose power executes
d whose boundless love pervades the whole. Or
xclaim,—

"All are but parts of one stupendous whole,
Whose body Nature is, and God the Soul."

toplasm is the agent by which all vegetable growth
ust be admitted. By the improved microscope, we
itness the wonderful process. We can see the first
e formation of a cell. We can see the protoplasm
m, as it forms itself into a little globe or ball to
ucleus of the future cell. We can see it begin to
ke form, as it secretes the substance with which it
elf with a cell wall as perfect as the shell of an egg.
cleus, the cell sap, and the cell wall, constitute a
The nucleus is simply living protoplasm, which, as
first cell is completed, divides itself into two parts,
an end of the cell, begins its rotary motion, divides
, and from the half each forms a new cell as perfect as
Thus from one cell two are formed, each to be again
, and thus on to infinity. But when a sufficient number of
e formed, one above another, a new work commences, with
we are particularly interested. The protoplasm in the
dicular row of cells begins to absorb the transverse septa or
alls which are in contact with each other, and joining the
valls together forms tubes or sap vessels; then passes up
gh the tubes thus formed and uniting recommences its work
ll building to complete the plant or tree. It is the *union* of
rotoplasm or the contents of these cells as it absorbs the cell
s between them and recommences cell building, that gives the
to the origin of sports. It is a process which is constantly
on in plant growth. Beyond the simple formation of cells,
nion seems to be the means of the most important changes.

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To illustrate: The grains of pollen in a blossom are admitted to be independent male cells, which may be removed from one plant to another. In the same blossoms where the male cells are formed, are the ovules or female cells, which cannot be removed without destroying them. These male and female cells are not independent parent cells, *i. e.*, they cannot by division form other cells. *Separately* they can do nothing toward building up the tree, but soon perish. But bring the pollen or male cell in contact with the ovule or female cell, and they at once absorb the cell walls between them, unite their contents, and together form a new cell which is the embryo or parent cell of a new plant. In this way every seed is formed by the union of the contents of two cells. And here we may see how no plant can, of itself, ever change its kind. If the pollen, or male cell, uniting with the female cell be of the same kind, then the embryo or seed cell must be the same and the plant will be the same. But let the pollen or male cell be of a different variety, and although they will unite in the same way, yet the embryo or seed cell will be unlike either. It will be a mixed or hybrid cell, and the plant coming from it will be like it. Thus we see that all hybrids come from the union or mixing of the contents of two cells. The same is true of all cross-fertilized seeds. Two cells of different varieties unite to form a seed cell; hence the term "variety hybrid," applies to every crossed variety.

Now, we wish to examine this union of cells a little more. When two cells thus unite, each contains a nucleus which appears to be little more than a small collection of protoplasm. But what gives this little particle of protoplasm in the male cell the power to produce such different results when uniting with female cells of different varieties? Or, in other words, what *determines* the kind of the embryo cell thus formed? In a natural tree, isolated from all others, every seed or embryo will be true to its kind. But in a grafted tree bearing several kinds of fruit, perhaps no two seeds will produce the same kind. Now every nucleus or primordial cell is formed in the protoplasm, and it would seem that the protoplasm should determine the kind, but this is not the fact. Neither is it the root that affords the sap, nor the leaf that elaborates it, nor the protoplasm formed from it. I have a natural pear tree, which, many years ago, was grafted with the St. Michael. When that pear cracked so badly, I grafted it with the Duchesse more. Not satisfied with that fruit, I grafted it again with

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Thus, I have four kinds of pear wood growing
he other. The wild stock furnishes all the sap that
hrough the four kinds of wood, which is elaborated,
id assimilated by the Anjou leaves and branches, and
plasm in the cambium of the Anjou top. It is certainly
oplasm, for it forms Anjou cells, buds, fruit, and wood.
me Anjou protoplasm passes down a little lower, and
more cells, buds, fruit, and wood; still lower, it
Michael cells, buds, fruit, and wood; lower still, the
uit of fifty years ago is found. And this all takes place
e are only Anjou leaves on the tree. Now when the
n leaves the Anjou top, it is full of primordial cells
ere, which, if matured there, would be Anjou. What
heir nature as they pass down? I come to the conclusion
kind of wood must have an inherent power to determine
ind of fruit, and that the nuclei or primordial cells have
l determined by the wood where they are *matured*, and not
ey originated. Every kind of wood imparts something to
rent cell matured in it that determines what kind of fruit
coming from it shall bear. And every tree coming from
ell must be true to its kind. Now if there is any way by
e contents of two cells, determined by different kinds of
hould be united, would not the union be a hybrid? We
ready seen that such a result follows in hybridizing and
rtilizing. We have also seen that in building up a tree,
lls often, yea, constantly, absorb the cell walls between
and unite their contents, and proceed to form new cells by
nited contents. Now we are constantly bringing such
nt cells in contact by the process of grafting, and it is in
d trees that sports are generally, if not always, found. A
a scion is placed in contact with a cell in the stock; they
b the cell walls between them, unite their contents, and these
ed to build a strain of wood different from either; in
this blossoms and bears fruit, uniting the qualities of both
and stock. It is a graft hybrid, but is called a sport. I
all sports come from a *union* of cells of different varieties.
may not always trace this. As in the animal kingdom, the
ed strain may reach far back—sometimes over several genera-
s—so in plants; the strain may not become apparent for years,
when it appears it gives a new variety. But there is another

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Discussion.

ıll P. Wilder said that he had been more interested
ɜt read than he expected to be. He had heard a
t cell matter, which he had not intelligence enough
but Mr. Talbot had so systematized his facts in
ology, and stated them in such a sensible way, as
per a remarkable one. His method of accounting
ion of four different kinds of wood in the pear tree,
ıg *matured* in the wood formed, the speaker thought
ıll know how cells are produced and conjoined, but
well understood the process by which sports are
that whether they are called hybrids or sports, the
same. He had had much experience in producing
and some sports which he has fixed may have come
nion of cells as the essayist had described.

hrop said that he had been exceedingly interested in
The subject is very complicated—as much so as any-
nce, except that of soils. Many German writers seem
g to explain old mysteries by new phrases. The
ɯ can produce a sport, you show that you understand
hich govern it. If we cannot get positive evidence on
:t, we may get negative. There is no certainty in regard
ɜ when we arrive at certainty regarding them, they cease
rts. It makes no difference what name is given to them.
ker has a grafted tree, on which all the grafts have shown
es the same as he put in, except one branch, which has not
e, is different in leaf, and will probably prove a sport, or
ofessor Gray would call a bud variety. But such phe-
cannot be produced at will. The cell process does not
clear how the sweet and sour apple was produced. Mr.
's process, by splitting the graft through the bud, is legiti-
nd natural, and can be effected, as is known. Mr. Coxe
of the Cultivation of Fruit Trees, page 22,) says he has
n apple in which the properties of the Newtown Pippin and a
ting were mixed by the accidental intermingling of the
hes of two trees growing in an orchard at Trenton, N. J.;
end of each apple was strongly marked externally by the
acter of the Russet parent; the other equally resembled the
ɒin, and the flavor and juice of each end corresponded exactly
ɑ its external appearance. Here is extraneous influence, from

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simultaneously. The Browallia will sometimes produce a
ch with white flowers. These are all things of which we know
ow they are done, but the speaker hoped we might find out.
things are yet unfathomable; we cannot find out the law by
a wild stock, when grafted, produces eight or ten varieties
uit, and all distinct. Van Mons did not believe in hybridiz-
why did his seedlings vary?

r. Talbot replied to Mr. Hovey's last query, that Van Mons
ted the trees which produced his seeds alongside of other
ties.

r. Wilder agreed with Mr. Talbot that Van Mons must have
ted his trees in his garden with other varieties.

r. Hovey said that geraniums and other plants grown in green-
es where there are no other varieties, will vary when grown
seed. Nature has provided against the chance of flowers not
g fertilized, by a surplus of stamens, a sin all the Rosaceæ,
there is no need of foreign fertilization; three-quarters of
n do their own fertilization. Variations take place without
rd to hybridization, not only in the vegetable world, but
ughout creation.

William C. Strong was called on, and said that he was not
ined to speak, because he felt the danger of expressing crude
ions. He felt under obligations to the essayist for his paper,
was not ready to follow it. As regards hybridization by dif-
nt kinds of protoplasm producing the different varieties in
ds, we may, perhaps, agree. But to divide, and afterwards to
ss in an artificial way, admits of very grave doubts. To split
ngle cell would destroy it.

Mr. Talbot said that Mr. Strong did not make the distinction
ween protoplasm and the beginning of a cell. One single cell
ides and makes other cells, called the parent cell. If we can
ide that and unite another half cell with it, it makes but a sin-
cell.

Mr. Hovey asked Mr. Talbot whether he had ever attempted to
ide a fern spore.

Mr. Talbot replied that he had not, and added that every seed
a compound cell.

Mr. Strong controverted the point made by the essayist, that
ture never changes without the introduction of a new element,
d that there can be no variation but by the union of two varie-

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ıe benefits of our exhibitions, the Society has never ıg so popular as the holding of these useful and neetings. If we could not by this means procure the they have afforded, we might be unable to obtain it at ilder said that he should not attend these meetings a but urged the Society to go on with them through com- t is in the right way, and should follow it.

B. Muzzey said that as one of the oldest members of , and as a former member of the Committee on Publi- Discussion, he thought it but justice to the Society, and ho have had charge of the meetings, to say that never re they been so successful, so well attended, and pro- f so much advantage. Never before have we been rith the constant presence of the President of the Society. mittee must have spent a great deal of time in perfecting ngements, and have never had so much success in select- l essayists. The speaker was delighted to see that the ıas the coöperation of the community in its efforts to nformation on horticulture. He offered the following vote: , That the thanks of the Society be given to the President, ı. Francis B. Hayes, for his constant presence at the dis- s, and the impartial, courteous, and faithful manner in ıe has presided over these meetings. Also, that our thanks ressed to the Committee on Publication and Discussion for rise selection of readers and the valuable papers given us gh the season. Also, that we express our thanks to our ary for his admirable reports of the meetings and his devoted es in all his duties, in which he has labored to the detriment health; and we express our hope that he may, by rest and ation, be restored to pursue his invaluable work.

ıe vote was unanimously passed, and the meeting then ad- ned without day.

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.NSACTIONS

OF THE

setts Horticultural Society.

OR THE YEAR 1883.

PART II.

BOSTON:
PRINTED FOR THE SOCIETY.
1884.

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NSACTIONS

OF THE

Horticultural Society,

HE YEAR 1883.

PART II.

BOSTON:
FOR THE SOCIETY.
1883.

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.ee on Publication and Discussion, take this oppor-
t what they have heretofore stated, that the Society
eld responsible for the certainty of the statements,
ıs of the opinions, or the accuracy of the nomencla-
apers and discussions now or before published, all of
'est on the credit or judgment of the respective writers
the Society undertaking only to present these papers
ions, or the substance of them, correctly. The award
ır gratuity for an Essay is not to be understood as im-
; the Committe approve it in every particular, but only
elieve it calculated, *on the whole*, to promote the science
Horticulture.

BENJAMIN G. SMITH, *Chairman.*

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NSACTIONS

OF THE

s Horticultural Society.

INESS MEETING.

SATURDAY, April 7, 1883.

meeting of the Society was holden at
B. HAYES, President, in the chair.

lder, President of the American Pomo-
d a circular announcing that the Nine-
of that Society would be held in Phil-
13, and 14, and moved the appointment
-five from this Society, of which the Pres-
n, to attend the meeting, the delegation
ancies in their number. The motion was
, Robert Manning, and E. W. Wood, were
o nominate delegates.

that Ellwanger's "Treatise on the Rose"
f classification of all roses exhibited for
The motion was referred to a Committee
e, William H. Spooner, E. W. Wood, J.
rd L. Beard.

ommended by the Executive Committee at
of November, 1882, were taken up, and
follows:—

tuities,

lowers, ...	$1500
. . . . .	950
. . . . .	500
l Greenhouses, . . .	100

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For the Committee on the Library, for the purchase of magazines and newspapers, binding of books, continuing the card catalogue of plates, and incidental expenses of the Committee, ...	400
For the Committee on Publication and Discussion, ...	150
For the expenses of the Committee of Arrangements, ...	300

Dr. HORATIO C. MERIAM, of Salem, and
AMOS E. HILL, of Belmont,

having been recommended by the Executive Committee, were, on ballot, duly elected members of the Society.

Adjourned to Saturday, May 5.

BUSINESS MEETING.

SATURDAY, May 5, 1883.

An adjourned meeting of the Society was holden at 11 o'clock, Hon. FRANCIS B. HAYES, President, in the chair.

The Committee appointed at the last meeting to select some book as a standard authority for the guidance of committees and exhibitors in the classification of roses, reported through their Chairman, John B. Moore, that they had examined various works on the rose, and after careful consideration unanimously recommended to the Society to adopt as such standard, Ellwanger's "Treatise on the Rose."

The report was unanimously accepted and adopted.

The President communicated a letter from the President of the Imperial Russian Horticultural Society, containing more fully the information received by telegraphic cable, on the 10th of March, that the International Exposition of Horticulture and Congress of Botanists and Horticulturists, fixed for the present month, in celebration of the Twenty-fifth Anniversary of that Society, had been postponed until next year, on account of the coronation of the Emperor and Empress of Russia at Moscow during the month,

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pe that the representatives of this Society
year.

day, June 2.

USINESS MEETING.

SATURDAY, June 2, 1883.

ing of the Society was holden at 11 o'clock,
ES, President, in the chair.

ounced the decease of Parker Barnes, one of
f the Society, and moved the appointment of
are memorial resolutions. The motion was
ir appointed as that Committee, Mr. Breck,
and John B. Moore.

Wilder exhibited two colored plates of a large
nd single varieties of Tuberous Rooted Be-
the recent great improvement in these plants,
for the summer decoration of gardens and

ned persons having been recommended by the
e were, on ballot, duly elected members of the

W. MORANDI, of Malden.
W. WELD, of Newport, R. I.
A. D. SHEPPARD, of Newton.

then dissolved.

BUSINESS MEETING.

SATURDAY, July 7, 1884.

tated meeting of the Society was holden at 11
CIS B. HAYES, President, in the chair.

. Wilder, Chairman of the Committee appointed
to report a list of delegates to the meeting of

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the American Pomological Society at Philadelphia, on the 12th, 13th, and 14th of September, reported the following:

The President, Hon. Francis B. Hayes, Chairman.

Hon. Marshall P. Wilder,	Warren Fenno,
Charles M. Hovey,	John C. Hovey,
James F. C. Hyde,	E. P. Richardson,
William C. Strong,	James W. Clark,
John B. Moore,	Aaron D. Capen,
Benjamin G. Smith,	Henry W. Wilson,
C. H. B. Breck,	John A. Demar,
E. W. Wood,	Nelson B. White,
P. Brown Hovey,	John H. Moore,
Charles F. Curtis,	Charles N. Brackett,
J. W. Manning,	William H. Spooner,
O. B. Hadwen,	Warren Heustis.

The report was accepted, and the Committee was empowered to appoint substitutes for such delegates as might be unable to attend.

Edward L. Beard said that the project of holding a grand exhibition during the year 1884, not only of horticultural products but of plant houses, heating apparatus, and all other objects appertaining to horticulture, had been discussed by some of the members of the Society, who believe that, occupying as it does a foremost place among American horticultural societies, it should take such a step in advance. He thought it probable that contributions could be secured from Europe, and felt certain that such an exhibition would be the means of diffusing much needed information on horticulture. On motion of John B. Moore, seconded by William H. Spooner, the following named persons were appointed a Committee to consider the subject: Edward L. Beard, Marshall P. Wilder, H. H. Hunnewell, F. L. Ames, Charles M. Hovey, John B. Moore, William H. Spooner.

The following named persons having been recommended by the Executive Committee, were, on ballot, duly elected members of the Society:

Spencer W. Robinson, of Boston.
Rhodes Lockwood, of Charlestown.
Francis C. Foster, of Cambridge.

Adjourned to Saturday, August 4.

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BUSINESS MEETING.

SATURDAY, August 4, 1883.

eting of the Society was holden at 11 o'clock, FRANCIS B. HAYES, in the chair.

was added to the delegates to the meeting of logical Society.

'. Wilder announced the decease of Dr. John A. Bend, Ohio, a Corresponding Member of the ed the appointment of a Committee to prepare ns, and Mr. Wilder, Charles M. Hovey, Robert ander Wetherell were appointed as that Com-

s motion, also, a Committee, consisting of Aaron Wood, and Charles N. Brackett, was appointed tions in memory of Lemuel Clapp.

hrop announced the decease of George Craft, and ntment of a committee to prepare a memorial, and hn C. Hovey, and John G. Barker were appointed ee.

the Constitution and By-Laws the President re- wing Committee to nominate suitable candidates offices of the Society for the year 1884: Hon. ilder, Chairman, Henry P. Walcott, William H. y Ross, George Hill, Joseph H. Woodford, Ed-

ORGE A. PURDIE, of Wellesley Hills, and MES H. BOWDITCH, of Brookline,

ecommended by the Executive Committee, were, on ected members of the Society.

to Saturday, September 1.

BUSINESS MEETING.

SATURDAY, September 1, 1883.

rned meeting of the Society was holden at 11 o'clock, is B. HAYES, President, in the chair.

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Hon. Marshall P. Wilder, Chairman of the Committee appointed at the last meeting to prepare resolutions in memory of Dr. John A. Warder, reported as follows:—

The Committee appointed to prepare resolutions on the death of Dr. John A. Warder, a Corresponding Member of this Society, beg leave to report:

Dr. Warder died at his residence, North Bend, Ohio, July 14, 1883, aged seventy-one years. He was born within the limits of Philadelphia, and was for many years a beloved physician in Cincinnati, until his removal to his farm, a part of which was formerly President Harrison's. He was a Vice-President of the American Pomological Society, an Ex-President of the Cincinnati Horticultural Society; President of the Ohio Pomological, now the State Horticultural, Society; founder and President of the American Forestry Association, until last year when it became the American Forestry Congress; and a member of many other associations. Dr. Warder was a student of nature, deeply interested in landscape gardening, and the improvement of our cemeteries, and also in the work of various scientific and educational institutions, and had been recently appointed by the United States Department of Agriculture, as Forestry Agent for the investigation of American Forestry; Therefore be it

Resolved, That in the death of Dr. John A. Warder, a Corresponding Member of this Society, we have to deplore the loss of one of nature's noblemen, unselfish and generous, devoting his whole life to the good of others. We recognize his fondness for scientific investigations, his contributions to various literary and medical publications, and especially his valuable works on American Pomology and American Forestry.

Resolved, That in this bereavement we have lost a man of fine social qualities, whose society was greatly enjoyed by all who knew him, and we would here express our heartfelt sympathy with the family of the deceased.

Leander Wetherell desired to add his testimony to the worth of Dr. Warder, whom he first met in Rochester, N. Y., about 1845. He knew him to respect and honor him. He was of Quaker ancestry, and his father entertained Audubon, William Bartram, and Nuttall, and they inspired the son with a love of nature and science. His publications on forestry, of which a list was printed in the August number of the "Journal of Forestry," are numerous, and

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form almost a library on that subject; and it is an important question who shall fill his place in the study and investigation of that department of rural economy. He was chosen a Corresponding Member of this Society in 1869, and was a gentleman whom we all delighted to honor, and it becomes us to pay him the respect which he so richly deserved.

William C. Strong confirmed all that had been said by the last speaker, and in the resolutions, in praise of Dr. Warder.

Mr. Wilder said that Dr. Warder was a remarkable and most useful man, and that in his death he had lost a very dear friend, who always made the house of the speaker his home when he visited Boston, and who, when he was sick, came in loving kindness to watch over him not only in his home, but by his bedside in Washington.

President Hayes desired from his official position to acknowledge in behalf of the Society, the great worth of Dr. Warder, and the benefit conferred by him on the Society, which is indebted to him for instruction on a novel subject, and deeply deplores his loss.

The resolutions were unanimously adopted.

Aaron D. Capen, Chairman of the Committee appointed at the last meeting to prepare a memorial of Lemuel Clapp, presented the following:

The Committee appointed to take suitable notice of the death of Lemuel Clapp, respectfully report:

Lemuel, the son of William and Elizabeth (Humphreys) Clapp, was born in Dorchester January 21, 1815, and died June 15, 1883. He, with his brothers Thaddeus and Frederick, was largely interested in agricultural and horticultural pursuits. He planted with his own hand the seed from which the Clapp's Favorite pear originated.

It is not often that we have to record the death of one whose departure will be the occasion of greater sorrow in the circle in which he moved. The loss of his efforts in behalf of the Massachusetts Horticultural Society will be seriously felt.

He was beloved by his family and many personal friends, and highly respected by all who knew him, as a gentleman not only above reproach but above the suspicion of it. Many have made more show and noise in this world, but few have left it with a cleaner record.

AARON D. CAPEN,
E. W. WOOD,
C. N. BRACKETT,
} *Committee.*

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Mr. Wilder said that he knew Mr. Clapp well as a worthy citizen of Dorchester. He was the last of three brothers noted for their excellent character and their skill as horticulturists. Although Thaddeus Clapp has the credit of producing the Clapp's Favorite pear, the seed of this and all the other fine seedling pears which have originated in the grounds of the Clapp brothers was planted by Lemuel. He is a loss to the community and especially to American Pomology.

The resolutions were unanimously adopted.

William H. Spooner, from the Committee appointed at the meeting on June 2d, to prepare resolutions in memory of Parker Barnes, reported the following:

Resolved, That in the death of Parker Barnes, the Massachusetts Horticultural Society has lost a member who for many years took a lively interest in its welfare and prosperity.

Resolved, That while we sympathize deeply with the family and relatives of the deceased, in this dispensation of Providence, we rejoice in the full belief that he has passed to a higher and more glorious state of existence.

Resolved, That these resolutions be entered on the records of the Society, and that a copy be transmitted to the family of the deceased.

C. H. B. BRECK,
Chairman of Committee.

Mr. Wilder said that he knew Mr. Barnes as a lover of Nature fifty years ago. He afterwards was much interested in the dahlia, of which he had one of the most extensive collections and was one of the most successful cultivators. Later he became a seedsman, and was instrumental in the distribution of both seeds and plants of beautiful flowers.

Robert Manning, the Librarian, took from the library a little book, presented by Mr. Barnes on the 10th of October, 1882—"The Young Florist, or Conversations on the Culture of Flowers and on Natural History, with numerous engravings, from original designs: By Joseph Breck, Superintendent of the Horticultural Gardens, Lancaster, Mass." It was published at Boston, in 1833, and bore the following inscription on a fly-leaf: "This book was the cause of the development of my love for flowers: Parker

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Barnes, May 5, 1863;" thus forming an interesting memorial of the author and the giver, two of the oldest members of the Society.

The resolutions were unanimously adopted.

The Committee appointed at the last meeting to prepare resolutions in memory of George Craft, reported through their Chairman, David W. Lothrop, as follows:

The Committee appointed at the last meeting to present resolutions to the Society on the decease (July 21, 1883) of Mr. George Craft, of Brookline, would make the following report:

Resolved, That on the death of Mr. Craft, long a member of this Society, we would express our sorrow for the loss of one who, during the greater part of his life, took a deep interest in agriculture and horticulture, and in the various arts and sciences to which they are allied, holding for several years a place on the Flower Committee of our Society. In early life he was much interested in the cultivation and sale of ornamental trees and shrubs, and in a later portion of his life in that of flowers, particularly the Gladiolus, raising many fine seedlings thereof, in which industry he was very prominent, if not the pioneer, taking many prizes, certificates of merit, and several medals, as our annual reports abundantly testify. In the allied art of landscape gardening, he manifested much pride and pleasure, and exhibited the marks of his discriminating taste in everything of this nature which he undertook. But aside from his love of horticulture, the members of this Society, and those who knew him best, will remember him for his self-culture, industry, and ingenuity, his frankness and modesty, his cheerful companionship, his unsullied reputation, his interest in many philanthropic associations, and his general devotion to the higher elevation of man.

Resolved, That these resolutions be entered on the records of the Society, and that a copy be forwarded to the sister of the deceased.

D. W. Lothrop,
John C. Hovey,
John G. Barker,
Committee.

The resolutions were unanimously adopted.

Hon. Marshall P. Wilder, Chairman of the Committee to nominate candidates for Officers and Standing Committees for the next year, reported a printed list, which was accepted and laid on the

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table. It was voted that the Committee be continued and requested to nominate candidates in place of any who might decline before the election.

William H. Spooner announced that Charles H. B. Breck had declined a renomination as Chairman of the Committee of Arrangements, after having filled that important position acceptably and courteously for many years, and offered the following resolve, which was unanimously passed:

Resolved, That the thanks of the Society be presented to Charles H. B. Breck, for his long term of service, of seventeen years, as Member and Chairman of the Committee of Arrangements.

The following named persons, having been recommended by the Executive Committee as members of the Society, were, on ballot, duly elected:

DANIEL WRIGHT, of Lowell.
HOSEA WATERER, of South Natick.
Mrs. MARY LANGMAID, of Somerville.

The meeting was then dissolved.

BUSINESS MEETING.

SATURDAY, September 22, 1883.

A special meeting of the Society was holden at 11 o'clock, in accordance with the following request:

BOSTON, September 18, 1884.

To Hon. FRANCIS B. HAYES,
President of the Massachusetts Horticultural Society:

Agreeably to Section XI of the Constitution and By-Laws of the Massachusetts Horticultural Society, the undersigned twelve members request you to call a special meeting of the Society, to see if the Society will authorize the execution of a mortgage on its estate on Tremont Street, Boston, between Bromfield and Bosworth Streets, for $60,000 for five years, at 4½ per cent interest.

Marshall P. Wilder,	John Fillebrown,
Charles H. B. Breck,	Robert Bottomly,
John G. Barker,	M. W. Chadbourne,
George Hill,	D. A. Martin,
George W. Fowle,	David Allan,
Robert Manning,	Samuel G. Damon.

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In compliance with this request the President ordered that a Special Meeting be held on Saturday, September 22, at 11 o'clock, for the purpose therein mentioned, and that the notice required by the Constitution and By-Laws be given by an advertisement signed by the President, which was accordingly published three times in the Daily Evening Transcript, and three times in the Boston Daily Advertiser, and a notice of similar tenor was posted in the Library Room.

At this meeting the President was in the chair, and stated the object of the meeting to be to execute a mortgage and note, as mentioned in the call for the meeting. The mortgage and note were read in full by the President, and on motion of Aaron D. Capen it was unanimously

Voted, That Francis B. Hayes, the President of this Corporation, and George W. Fowle, the Treasurer of this Corporation, be, and they hereby are, authorized and directed to execute, acknowledge, and deliver, the foregoing mortgage as the free act and deed of this Corporation—to execute the note therein described, and transfer the policies of insurance as additional security, as therein set forth.

The meeting was then dissolved.

BUSINESS MEETING.

SATURDAY, October 6, 1883.

A stated meeting of the Society, being the annual meeting for the choice of officers, was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

The Recording Secretary stated that the requirements of the Constitution and By-Laws, in regard to notice of the meeting, had been complied with.

The President appointed William H. Spooner, George Hill, and Robert Manning, a Committee to receive, assort, and count the votes given, and report the number.

The polls were opened at five minutes past eleven o'clock.

Charles H. B. Breck reported from the Executive Committee a recommendation that the sum of $150 be appropriated for the deficiency in the appropriation for the expenses of the Committee of

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Arrangements for the years 1881 and 1882, and the appropriation was voted by the Society.

William H. Spooner moved that a committee of three be appointed to consider and report what further regulations were necessary for the proper conduct of the exhibitions, and the preparation for and closing of the same, and especially to prevent the loss of articles exhibited. The motion was unanimously carried, and the Chair appointed as that Committee, William H. Spooner, Chairman of the Flower Committee, E. W. Wood, Chairman of the Fruit Committee, and C. N. Brackett, Chairman of the Vegetable Committee.

Robert Manning moved that a committee of three be appointed to consider what recognition should be made of the specimens of Lepidoptera shown by Ernest E. Fewkes at the Annual Exhibition. The motion was carried, and the Chair appointed as that Committee, George W. Humphrey, William H. Spooner, and E. W. Wood.

While the polls remained open, President Hayes spoke of the financial condition of the Society, congratulating the members on its improvement, and said that $6,000 of the floating debt had been paid during the year, and $3,000 would be paid in the present week, and it was hoped to pay $3,000 before the end of the year, thus clearing off the entire floating debt of the Society. He believed that the income in future would enable it to increase the amount appropriated for premiums, and at the same time to lay up something every year towards extinguishing the mortgage debt.

Hon. Marshall P. Wilder referred to the efforts made to secure the present site and building of the Society, and congratulated the members that the President had consented to serve another year, and also on its prosperity as shown by the statement just made by the President. He had known the Society for fifty years, and it had never before been in so prosperous a condition.

Rev. A. B. Muzzey spoke of his long connection with the Society and of the interest now felt in it, and of the opportunities which it affords not only for the sight of beautiful flowers and fruits, but for instruction in horticulture. It owes much to the continuance of the lives of many of its older members, with enthusiasm like that of the veteran Ex-President Wilder, who had just spoken. But all institutions depend on their head, and the speaker wished to

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render all honor to him who now presides so ably and successfully over the Society, with a heart full of love and zeal for the promotion of horticulture.

President Hayes thanked the members for the flattering manner in which the mention of his services had been received, and said that having aimed to do his duty during the time he had filled the office of President he had wished to retire; but had been induced to continue another year. The success of the Society depends on the practical workers among its members, who, week after week, exhibit their flowers and fruits and vegetables, and among these he wished to give due praise to the ladies, from whom the men might well take example. He also spoke of the great value of the Library and of the labors of the Library Committee and the Librarian, in securing and making accessible to the members the most valuable works on horticulture and its kindred sciences.

Mrs. H. L. T. Wolcott wanted to urge on all the members of the Society, old and new, the importance of utilizing to the fullest extent the valuable library of the Society, and of remembering that the Library Room, in which they were assembled, is full of instruction—not only practical works but scientific. She was reminded of its wide scope by the fact that a member of the Corean embassy found here illustrations of the plants of his own country, and of articles from thence, displayed in the Foreign Exhibition now open in this city.

The following named persons, having been recommended by the Executive Committee, were, on ballot, duly elected members of the Society:

Edward K. Butler, of Jamaica Plain.
Thomas F. Galvin, of Boston.
Marshall M. Tidd, of Woburn.
William Robinson, of North Easton.
Samuel C. B. Rogers, of Boston.
John R. Ballard, of Dedham.

The polls were closed at five minutes past twelve o'clock, and the Committee to receive, assort, and count the votes reported through their Chairman that the whole number was fifty-six, and that all the persons whose names were on the ticket presented by the Nominating Committee, were chosen. The report was accepted and the persons named were, agreeably to the Constitution and

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By-Laws, declared by the President to have a majority of votes, and to be elected Officers and Standing Committees of the Society for the year 1884.

Adjourned to Saturday, November 3.

BUSINESS MEETING.

SATURDAY, November 3, 1884.

An adjourned meeting of the Society was holden at 11 o'clock, Hon. FRANCIS B. HAYES, President, in the chair.

The President, as Chairman of the Executive Committee, reported a recommendation that the Society appropriate the following sums for the year 1884:

For Prizes and Gratuities, ...	
For Plants and Flowers, ...	$1,750
" Fruits, ...	1,000
" Vegetables, ...	550
" Gardens and Greenhouses, ...	150
For the Committee on the Library, for the purchase of magazines and newspapers, binding of books, continuing the card catalogue of plates, and incidental expenses of the Committee, ...	400
For the Committee on Publication and Discussion, ...	150
For the expenses of the Committee of Arrangements, ...	300

Agreeably to the Constitution and By-Laws the Report was laid on the table until the first Saturday in January.

Adjourned to Saturday, December 1.

BUSINESS MEETING.

SATURDAY, December 1, 1883.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

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The Annual Report of the Committee on Plants and Flowers was read by William H. Spooner, Chairman.

The Annual Report of the Committee on Fruits was read by E. W. Wood, Chairman.

The Annual Report of the Committee on Vegetables was read by Charles N. Brackett, Chairman.

The Annual Report of the Committee on Publication and Discussion was read by Benjamin G. Smith, Chairman.

Robert Manning read his Annual Report as Secretary and Librarian.

These reports were severally accepted and referred to the Committee on Publication.

The Committee on the Library, the Committee on Gardens, and the Committee of Arrangements, asked further time to make their reports, which was granted.

William H. Spooner, from the Committee appointed at the meetting on the 6th of October to consider what recognition should be made of the collection of Lepidoptera, whose larvæ are injurious to vegetation, shown by Ernest E. Fewkes at the Annual Exhibition in September last, read a report with a unanimous recommendation that a First Class Certificate of Merit be awarded to the exhibitor. The report was accepted and the recommendation was adopted.

The President, as Chairman of the Executive Committee, presented the List of Prizes recommended by the Committee on Establishing Prizes to be offered for the year 1884, with the approval of the Executive Committee. Some amendments being suggested the report was laid on the table for one week, for further consideration.

Hon. Marshall P. Wilder, Chairman of the Committee on Large and Interesting Trees, reported that the Committee had gathered much interesting information on the subject, but, as it had proved larger than was anticipated, he moved that further time be granted to prepare for publication the material collected, and, also that John Robinson, Professor of Botany to the Society, be added to the Committee. Both these motions were carried.

Mr. Wilder also referred to the action of the American Pomological Society, at its recent session, in regard to improving and

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simplifying the nomenclature of fruits, and read from his address as president of that society his views in relation to the subject. The following votes on the subject were passed:

Voted, That in all the exhibitions and publications of the Society, the nomenclature of fruits be conformed to that of the Catalogue of the American Pomological Society.

Voted, That exhibitors of fruits shall not be disqualified by using the present names at the exhibitions.

Edward L. Beard was added to the Committee on rules for the better conduct of the Society's exhibitions.

Benjamin G. Smith, Chairman of the Committee on Publication and Discussion, gave notice that the series of Meetings for Discussion the present season would commence on the next Saturday, with the reading of an essay by John J. Thomas, of Union Springs, N. Y., on "Live Hedges, for Protection and Ornament, and the Plants most suitable for them."

The following named persons, having been recommended by the Executive Committee, were, on ballot, duly elected members of the Society:

Stillman S. Hovey, of Woburn.
Arthur Hunnewell, of Wellesley.
Alexander Greenlaw, of Boston.
Thomas W. Dee, of Mount Auburn.

Adjourned to Saturday, December 8.

BUSINESS MEETING.

Saturday, December 8, 1883.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. Francis B. Hayes, in the chair.

The Annual Report of the Library Committee, was read by William E. Endicott, Chairman.

The Annual Report of the Garden Committee, was read by John G. Barker, Chairman.

These reports were severally accepted and referred to the Committee on Publication.

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The Schedule of Prizes for 1884, laid on the table at the last meeting, for consideration today, was taken up. Several amendments were proposed and adopted, and the Schedule was then adopted.

The President stated that a communication had been received from the Worcester County Horticultural Society, asking the co-operation of this Society in a movement to secure the exemption of horticultural societies from taxation. The subject was referred to the Executive Committee.

Adjourned to Saturday, December 15.

MEETING FOR DISCUSSION.

Hedge Plants and Hedges.

By John J. Thomas, Union Springs, N. Y.

In answer to the question, "Are live hedges to be recommended; and, if so, what plants are most suitable?" the writer of this essay desires to report his experiments performed during the past forty years with hedges, both for farm use and for ornament, and with several different hedge plants. In giving the results of these experiments, and placing each sort in the position of its real value, it will be necessary to point out the kind of treatment to which each has been subjected, as some may be valuable with one kind of management, and useless with another.

The deciduous trees and shrubs on which the experiments were performed, were the Buckthorn, Osage Orange, Honey Locust, Privet, and Barberry. The evergreens were the Norway Spruce, Hemlock, and American Arbor Vitæ. The Osage Orange was more extensively planted than any other; long lines of this hedge on farms, commenced from twenty to twenty-five years ago, being still in good order, and affording efficient protection against farm animals.

The earliest experiments made by me forty years ago, were with the Buckthorn. It has the special advantages of great hardiness, a naturally thick and hedgy growth, and easy propagation by seed. The young plants, which have a copious mass of fine fibrous roots, are easily transplanted, and there need not be a failure to grow of one in ten thousand, if the work is performed with reasonable care. In order to keep the hedge thick and within bounds, a moderate

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amount of cutting back is requisite. But with all its advantages the buckthorn has a serious drawback. The growth is not stout enough to resist unruly animals, unless growing in a richer soil than farms generally possess. The annual cutting back, although moderate, is an objection to farmers; and they have generally preferred the more costly post and board fence, with no yearly care.

The buckthorn hedges which I have made, have cost about twenty-five cents a rod the first year, including the preparation of a strip of mellow soil five feet wide, the purchase of the plants, the setting, and occasional horse-cultivation to keep two feet of clean soil on each side. The yearly cultivation afterwards, and the annual cutting back early in spring, until the hedge had reached full size, was not over three or four cents a rod.

Although the buckthorn has nearly passed out of use as a hedge plant, on account of its inefficiency and want of real thorns, it is by no means impossible that it may be again extensively planted in future years, when cultivators find that it may be converted into an efficient barrier by enclosing two or three barbed wires extending its length through the interior, these wires, supported on occasional posts, being successively placed in position as the hedge increases in height, the branches growing around the wires and holding them immovably in position (Fig. 1). Gal-

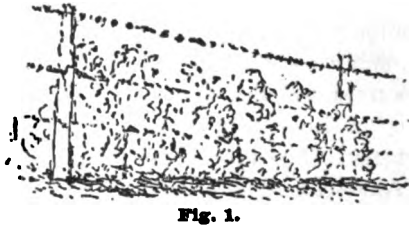

Fig. 1.

vanized wire should always be chosen on account of its durability, instead of painted wire, which is liable to be affected with rust in a few years.

I have planted many Osage Orange hedges, and given them different modes of treatment. They require more care in planting than the buckthorn, in the assorting of plants of equal size and vigor, and in the rejection of those of feeble vitality. If all are not of equal size, they should be assorted into at least two sizes, and those which are alike planted together. As with all other hedge plants, they should be set in a single line, double lines being more

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difficult to keep clear of weeds and grass, while they possess no real advantage. About eight inches apart is a suitable distance to place them. The line of the hedge being a bed of fine mellow earth, they are carefully set with a stretched line. For the first few years the ground must be kept well cultivated.

As the Osage orange is partly tender, it will not endure the winters at the north, unless on well-drained soil. I have often had occasion to observe its healthy appearance on dry, gravelly knolls after severe winters, while in adjacent wet and rich depressions it had been nearly killed down to the ground. Hence the importance of placing a good tile-drain within a few feet and parallel with the hedge. Thus protected from a wet subsoil, I now have good hedges twenty-five years old, the cold of winter having often sunk the thermometer ten or twelve degrees below zero, and in rare instances lower.

No hedge is more commonly mismanaged than the Osage orange. It is planted in the first place in imperfectly prepared ground; vigorous and feeble plants mixed together are placed in the line; cultivation is neglected, and weeds and grass are allowed to choke the growth; it is not regularly cut down in successive years, and when the cutting is performed, it is not done low enough to give a thick and impenetrable mass of branches at the bottom. Hence the common appearance of broken and irregular lines, instead of perfect uniformity. Where more careful attention is given, the hedge is nearly spoiled by allowing too much breadth at the top, as shown in Fig. 2; the heavy shade above causing meagre growth

Fig. 2.

and openings below. A better form is represented in Fig. 3; but an objection still exists with many hedges pruned into this shape, in *shearing* to a uniform surface instead of cutting back more irregularly, as shown in Fig. 4. The shearing causes a very thick

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and short growth of leaves at the exterior, excluding the light from the inside and causing bare branches in the interior. Cutting

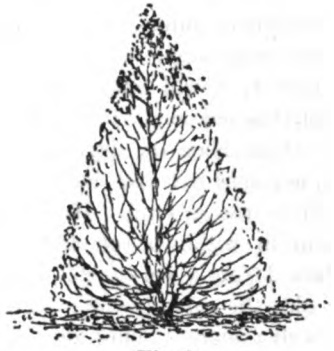

Fig. 3.

Fig. 4.

back more irregularly with a knife allows the growth of interior foliage and gives more health to the hedge. The sheared hedge presents an unnatural stiffness on ornamental grounds; cut back with the knife, if the operation is skilfully performed, it has more of the beauty of natural form. This is a matter which should be well understood, as the value of any recommended hedge plant depends on its proper management, and the Osage orange, and other hedges, have been pronounced failures by those who have mismanaged them.

For coarse farm barriers, hedges do not necessarily require the elaborate care just described. Another mode of treatment has been adopted in the Western States. The trees are trimmed and the main stems trained upright for a few years. They are then cut half off at the ground, and bent over in one direction at an angle of about thirty degrees with the ground (Fig. 5), trees being left

Fig. 5.

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upright at distances of four or five feet, and the inclined ones are interwoven among them, a straight line of trees being thus formed. The tops are then all cut off about three feet high. New shoots spring up in abundance from the sides and stumps, and form an impenetrable growth. Sometimes as many as fifty limbs have been counted sprouting from a single tree the first year. The top of the hedge is cut back annually to within a few inches of its previous height. Hedges made in this way have no gaps.

Whenever a hedge becomes too high by long years of growth, it is well to adopt a similar but simpler mode of treatment, first partly trimming the trees with a light axe or hook with a long handle, then cutting them half off at the ground, and bending them over. A new growth will spring up and form a new hedge, as shown in Fig. 6. I have adopted this course with a hedge sixty rods long,

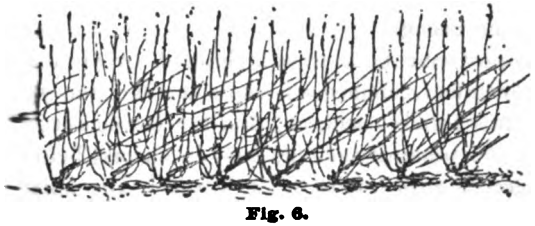

Fig. 6.

planted twenty-eight years ago on a distant tenant farm where personal attention could not be frequently given. It was set within eight feet of a parallel tile-drain, and it has been a perfect farm-barrier for more than twenty years.

The cost of the last described hedge, including the preparation of the ground, the price of the plants, the labor of planting, and the necessary horse-cultivation, was about twenty-five cents a rod the first year; and the three subsequent cuttings for the sixty rods cost about twenty dollars in labor, or, as an average, a little less than a dollar a year. But it was usually too tall, and it shaded and occupied too much ground to be recommended where land is valuable.

Ninety rods of Osage hedge, trained as represented by Fig. 3, cost about the same for planting, and for the first few years of cultivation, but more for annual cutting back. It was planted twenty-four years ago, and has been a barrier for about twenty years. The yearly cost of pruning, since it has reached full height, has been about four cents a rod for the first ten or twelve years, and of late

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years, after it had become larger and higher, nearly double that sum. The cutting back was performed either with a stout hook having a handle two and a half feet long, or a short, stout scythe. Hedge-shears were too slow in their operation, and were adapted only to ornamental hedges; but even for these the knife was preferred, as already mentioned.

The Honey Locust has been extensively used for hedges of late years, being preferred on account of its hardiness. By selecting the seed from the most thorny trees, young plants are obtained well armed with thorns, and making very efficient hedges. The trees having a tall, slender, and not hedgy growth, require thorough cutting back to impart a thick mass of branches, and very few of the many honey locust hedges have been sufficiently cut back when young, to prevent openings at the bottom. Similar general treatment is to be given to the honey locust, in planting and rearing, as to the Osage orange.

Many hedges have been greatly injured by pruning after the summer growth had commenced, and sometimes the young plants have been thus fatally checked. But the fact is becoming better known that the pruning must be done in spring, before the buds swell, if vigorous growth is to be preserved. The only exception to this rule is with strong growing hedges that are likely to become too tall unless some check is given after they have reached full height, and this check is easily furnished by summer pruning.

Although the cost of planting and starting hedges is less than that of building a good board fence, as has been already shown, it must be admitted that they are not adapted to the management of ordinary farmers, who cannot be induced to give them the perfect and continual attention required to keep them in good order. This conclusion is fully sustained by observing how few have succeeded with hedges, and how many have allowed them to be ruined by neglect.

The evergreens which have been employed have been exclusively for ornamental screens and not for farm barriers. The Norway Spruce may be placed at the head of the list, on account of its rigid growth, hardiness, and the freedom with which it may be cut back. It will bear more shade than many other evergreens, and hence the interior of the screen is green with foliage. The cutting should be done with a knife and not with shears, for the reason already stated. Next to the Norway spruce is the Hemlock, which

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exceeds the former in its lively green color in winter, while it is unexcelled in retaining interior foliage. It will bear pruning or cutting back to an almost unlimited extent, if the work is done in spring before growth commences. But it is not so stiff as the Norway spruce as a barrier. The American Arbor Vitæ, although much used, becomes destitute of foliage inside, and is browned by winter.

By the introduction of barbed wire an important change is likely to take place in planting hedges. Barb-wire makes a cheaper fence for its efficiency than any other material. A serious objection to it is the danger of animals being lacerated against the barbs before they are aware of its presence, the wire being nearly invisible. This objection may be obviated by enclosing the wires within a visible hedge. Another important advantage is the efficiency which may be thus imparted to small-growing hedge plants, as the Privet, Barberry, and small evergreens. These small growers will require but little labor in cutting or shearing, compared with that required for much larger ones as the honey locust and Norway spruce. After being once established, such hedges would become handsome ornaments. The Purple Barberry, for example, would present an attractive appearance during a large portion of the year. A new use may be thus given to hedges, by rendering the moderate flowers, and those easily kept in shape, efficient barriers for farms and fruit gardens.

Discussion.

J. W. Manning said he was convinced that the Osage orange will not make a practical hedge here, or north of Boston, though he had seen good ones in Connecticut. It soon becomes deformed by winter-killing. The Norway spruce is too heavy for a hedge in some positions. The American arbor vitæ is most practical; a hedge of it can be repaired, if injured, better than spruce. It is a great mistake to prune any evergreen hedge too close; instead of being closely sheared for years, it should be headed back less formally, and allowed to expand from bottom to top to remain healthy. If planted too close they are not so long-lived as when they have more room. Arbor vitæs should not be less than two feet apart and Norway spruces not less than three or four feet.

Benjamin P. Ware said that fifty years ago he assisted in setting a hedge of honey locust, which grew very vigorously and

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was difficult to keep within proper limits. It was neglected, and some of the plants grew more vigorously than the others and now form a row of beautiful trees; many of which, however, are very near together, as they were planted only two feet apart. Some of the trees have no thorns. The land within forty feet of these trees is of little value; no corn of any account will grow there. A buckthorn hedge planted thirty years ago is now vigorous and beautiful but requires a great deal of pruning. The branches gain about an inch in length every year; if cut closer, the thorns will be removed. It is thoroughly hardy; no insect preys upon it, and cattle will not browse it. The berries are an excellent purgative, as is indicated by the scientific name, *Rhamnus catharticus*. Half a dozen berries make a good dose, acting promptly, and having no objectionable quality.

Edmund Hersey recommended the Red Cedar on the Atlantic coast. It is very hardy, will grow on any soil, bears trimming well, and with the aid of wires makes a good fence. It is seldom winter-killed, and is very desirable for a screen—better than many others. It thrives on the very bluffs of the ocean and is not injured by the spray.

Mr. Ware thought the red cedar difficult to transplant, and of slow growth. He had tried to grow it from the seed, and thought it would be desirable if this could be done.

Mr. Hersey said that he had never sown the seed, but the seedlings spring up in great numbers wherever there are old trees, and small trees are easily transplanted, and if taken up with a sod are very sure to live. He set a row on the south side of a board fence, where there was only gravel for them to grow in, and, though they were not watered, ninety-five per cent lived. They were not over a foot in height when set.

John B. Moore thought a hedge as a barrier a perfect nuisance, and moreover it is costly and harbors vermin. A wind-break is another matter. The Norway spruce or White Pine is best for this purpose, and should be allowed to grow as nature intended, but a strip of land two or three rods in width on each side must be sacrificed to it. If it is intended as a shelter for buildings it should not be placed too close to them, but several rods away, especially if of white pine. If landscape beauty is wanted, it is better not to have any fence, but to plant groves and groups of trees.

Leander Wetherell said that Mr. Moore had expressed his views; hedges are costly and incommodious as barriers here. They sucker

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and breed and harbor vermin. For decoration and shelter they are going out of use. In Illinois, Osage orange hedges have been extensively planted, and Professor Turner told him that a wild steer could not go through one, but land is plenty and timber scarce there. The Osage orange has fruited in Connecticut, and a friend of the speaker had planted a hedge of it, but the soil here is not generally good enough, and he knew no good reason for its cultivation.

Benjamin G. Smith said that the *Pirus Japonica* makes a very beautiful hedge where one is desired for ornament. There are several in view from his residence. They are of slow growth, beautiful both in foliage and flower, and very desirable.

Joseph H. Woodford thought hedges desirable as screens in village gardens. The trouble with many buckthorn hedges is that they are cut square, with the sides perpendicular and the top horizontal, and under such treatment the lower branches are sure to die. He knew such an one which was headed down and, when it grew up anew, was trimmed in wedge shape, and is now most beautiful, with foliage to the ground. It is the same with Norway spruce hedges; the lower branches must be kept longest.

John G. Barker said that when Edward S. Rand, Jr. planted his grounds in Dedham, he desired to separate one part from another, and the question what to plant for a screen came up. It was finally decided to try the *Pirus Japonica*, and a hedge seventy-five feet long was planted, and proved all that was desired. The speaker had seen it in several places, and always beautiful. He has been for eleven years laboring to get the hedges away from around the small lots in Pine Grove Cemetery, at Lynn, of which he is superintendent. In planting a hedge or screen, the neighboring objects should always be carefully considered. He was consulted in regard to a hedge around St. Stephen's Memorial Church, in Lynn, a low walled building, around which it was proposed to plant a screen of Norway spruces, that would have hidden and dwarfed the building. At the Botanic Garden, in Cambridge, a screen was wanted to shut off the potting ground, and *Forsythia viridissima* was planted, which answered well, as long as it was cared for. He had seen at William C. Harding's, *Deutzia scabra* used as a screen, and *D. gracilis* planted along the top of a bank against a wall, forming a miniature hedge and giving an ornamental finish to the barrier.

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Mr. Manning said that the California Privet, *Ligustrum myrtifolium* is being extensively planted for hedges along the shore at Newport, R. I. The foliage is larger than that of the English or American Privet, and remains green until zero weather. It is easily propagated by cuttings, which should be taken up in autumn and sheltered over winter, after which it is quite hardy. He has cultivated it for a dozen years; if unpruned it will grow twenty feet high. All hedges should be pruned in wedge shape. The white pine makes one of the best screens, and the Balsam Fir is good. He had heard no complaint of the Norway spruce for this purpose, except that it grows too large. When a strong wind-break is required, he would plant a variety of evergreens, and a double row is better than a single one. They should be ten feet apart where the land can be spared. The hemlock is the finest of all evergreens, but does not succeed equally well in all localities. He had a hedge of it injured by the winter, but renewed it. Arbor vitæ hedges running east and west are more likely to be injured than those running north and south, as is proved in his grounds. In 1863 he planted a hedge of arbor vitæs, seven or eight feet high, and lost only three out of several hundred. It is now twelve feet high, and spreads five feet. If he had pruned it close it would have been killed out in some places before now. *Spiræa Thunbergii* bears pruning well and makes a neat hedge.

William D. Philbrick said that the red cedar can be propagated by cuttings, on the cutting-bench in the greenhouse. Evergreens are injured by drought; the arbor vitæ has suffered much, and hemlocks somewhat, but Norway spruces less.

President Hayes said that he had planted an arbor vitæ screen, which had done very well. He had also a hemlock hedge which he thought very beautiful, and was astonished to see it, as he supposed, almost all winter-killed, so that he believed he should have to cut it down, but is now agreeably disappointed in finding three-quarters of it alive. He thought the *Pirus Japonica* very desirable for hedges. As a farmer, he would not have hedges; as a horticulturist, he would plant them for ornament and shelter.

Mr. Manning said that the *Cratægus pyracantha* (evergreen thorn), makes a magnificent hedge, with showy orange berries, but was winter-killed last winter. He thought that there had been a great change in public opinion, in regard to hedges, and that much fewer are planted now than formerly, but more evergreen trees are

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planted for wind-breaks. Almost any evergreen tree, however large, will live, if you can get a ball of earth with it, or if it has been provided with a mass of fibres by frequent transplanting; but no rule applies in all cases. Evergreens must not dry between digging and planting. Of seven hundred prostrate junipers which he planted without balls, nearly all lived, but care was taken not to *expose* them to sun and air.

Notice was given that on the next Saturday, William D. Philbrick would read a Prize Essay, on "The Best Method of Constructing and Heating a Greenhouse for Amateur Use."

BUSINESS MEETING.

SATURDAY, December 15, 1883.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

William H. Spooner, Chairman of the Committee appointed October 6, to consider what further regulations were necessary for the better conduct of the exhibitions, and the preparation for, and closing of the same, presented the following report:

1. During the preparations for all prize exhibitions, a door-keeper shall be stationed at the door of the Hall, who shall on no account leave his position, and shall see that no person, except Members of Committees, and Exhibitors or their assistants, is admitted to the Hall, upon any pretext whatever.

2. At the close of every exhibition, a door-keeper shall be stationed at the door of the Hall, who shall on no account leave his position, and shall, on no pretext whatever, admit any person to the Hall except Members of Committees, and Exhibitors or those bearing written orders from them for the delivery of articles exhibited, and all other persons who may be in the Hall at the close of the exhibition shall leave immediately.

3. In the case of exhibitions continuing through the evening, no articles shall be removed until the next day, at such time as the Committee of Arrangements shall appoint; and the members of that Committee shall be present at such time, and shall attend to the delivery of articles exhibited.

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4. The Superintendent of the Building shall employ all assistance necessary to strictly enforce the above rules, including police.

5. Exhibitors disposing of any of their exhibits *must* notify the Superintendent of such disposal, and the Superintendent shall not deliver such articles without a written order from the *owner* thereof.

The strictest rules, enforced in the most faithful manner, will, without the coöperation of the members of the Society, fail of full effect, and an earnest appeal is made to every member to set the example of strict compliance with the rules, even at the expense of slight temporary inconvenience, for the sake of the ultimate benefit to the exhibitions and the Society. Past experience of growing abuses has shown that such rules are absolutely necessary. If any exception is made in favor of any member, the next comer will claim an exception in his case, and the enforcement of the rules is at an end.

WILLIAM H. SPOONER,
Chairman of Committee.

The report was unanimously accepted, and the rules were adopted, and ordered to be printed.

Adjourned to Saturday, December 22.

MEETING FOR DISCUSSION.

The Best Method of Constructing and Heating a Greenhouse, for Amateur Use, Taking Economy and Efficiency into Account.

By William D. Philbrick, Newton Centre.

The average amateur, for whom we are to construct a greenhouse, will wish to keep a considerable variety of flowering plants, and also some stock of bedding plants, to be used in the garden in summer; he will take delight in propagating his own stock, and will therefore need a cutting-bench; some of the plants he will want are tropical, others are more or less hardy; some delight in abundant sunshine, others flourish better in partial shade or in the diffused light of a house facing northward.

To satisfy these various demands of the different plants to be raised, a span-roof offers at once the most efficient and attractive

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plan; its south side will suit the flowering plants that love the sunlight, while its northern side will be the place for the delicate ferns, the camellias, and the cutting-bench. There will be no unsightly north wall as in the "lean-to" house, and by bending the rafters or sash bars, we can give it quite an ornamental appearance.

It should be partitioned off into at least three or four compartments. Two of these will face the sun and will be used, the one for hardy, the other for tropical plants, which love the sun and air, such as most flowering plants and bedding stock. The tropical plants will need a temperature of 60° at night, while the hardy ones will do far better in a temperature of 40° or 45° at night. They will both need abundant airing on sunny days and must therefore be provided with ample ventilators. The portion of the house facing north should be divided from the portion facing south, by a partition, for the plants which flourish in the diffused light also need little ventilation, and would suffer if exposed to the dry heat of the south side at mid-day.

We shall have then a span-roofed house, say twenty feet wide, and as long as the needs and the means of the owner require. The south side should have upright sashes for ventilation, three feet high from the ground; from the plate to which these sashes are hung a spring the sash bars, of pine, two by one and three-eighths inches, rising to a ridge nine feet high, eleven and a half feet horizontally from the front of the house, and giving a length to the rafters of about thirteen and a half feet. The north side of the house will be eight feet wide, with rafters ten feet long springing from a sill laid upon a concrete wall three feet high. This plan gives a steeper pitch to the north side, so as to prevent snow from lodging, and will probably be found wide enough for the wants of most amateurs. The glass should be double thick, ten by twelve inches, bedded in putty and well painted over the putty. Ventilating sashes, three feet square, will be needed every six feet along the ridge-pole on both sides. A row of posts at each side of the path, running lengthwise of the house, and carrying a purline, will give sufficient support.

The compartment nearest the fire on the south side will be used for tropical plants, and the one directly behind it on the north side for the cutting-bench; beyond these and separated from them by a cross partition will be, on the south side, the place for hardy flow-

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ering plants, and on the north side the place for ferns, camellias, smilax, etc.

The cutting-bench is best made of slate stone, supported on brickwork and heated by hot water pipes directly under it, and provided with valves for regulating the heat. The glass over the cutting-bench should be provided with curtains of white sheeting, to shade the delicate cuttings from the sunlight.

The heating apparatus best suited to the wants of the amateur, is the ordinary hot water circulation from a boiler placed about four feet below the level of the house floor, in a well-drained cellar, at one end of the glass, and covered by a shed or office, which, being always warm, will be found a convenient workshop in cold weather. In providing a boiler, always get one a size larger than the pipe-fitters advise, for it is a very bad thing to find your heating apparatus insufficient. Very much, however, depends upon having a good draft to the chimney; the same boiler will do twice the work with a good draft that can be done with a low and small chimney.

To maintain a tropical heat in the compartment which we have supposed to be eleven and a half feet wide, and nine feet high, will require six or eight four-inch pipes, while the portion devoted to hardy plants will not need more than half as many. In heating a house, very much will depend upon its location and the shelter afforded by the surrounding hills and trees on the north and west.

The compartments on the north side will require about four pipes to heat them enough; in the portion devoted to the cutting-bench two of these will pass under the bench and will be enclosed in brickwork, so as to give bottom heat to the cuttings.

Almost as important as the heating apparatus, is an abundant supply of water. If it cannot be had from the public works, a good dependence is a windmill, with an elevated tank fifteen or twenty feet high in the loft of the boiler house. It is desirable to have the water slightly warmed for tropical plants, and this may be easily effected by having the tank connected with the hot water boiler by circulating pipes provided with valves. The only objection to this arrrangement is that it places the whole circulation under pressure of the tank while heating, which is no objection if the joints are good.

This plan may be modified, if found convenient, by placing the boiler with its shed in the middle of the structure, carrying the

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heating pipes both ways therefrom. This arrangement has the advantage that the circulation pipes will not extend so far from the boiler; this, however, is not a matter of great importance, and the location of the boiler will be governed in great measure by considerations of convenience as regards accessibility by the coal wagon, drainage of the cellar in which it is placed, and nearness to the supply of water. In the illustrations, the boiler is represented as being at the end of the structure; if in the middle, it would have a rather more symmetrical appearance.

If the water-tank is placed directly over the boiler, as represented in the illustrations, the waste heat from the boiler and chimney will effectually protect it from freezing, without any heating pipes for warming the water. This arrangement will suffice for watering hardy plants, but when watering very tender tropical plants the water needs warming.

The internal arrangements of the house will of course be best left to the taste of the owner and his wife; it will only be needful here to suggest that any plant will thrive far better planted in a bed where its roots can spread, than confined in a pot, but the confined condition of the roots favors early flowering. Moreover, plants that are to be removed to the open air in summer, are best potted. The pot, therefore, is a necessity, and it is best kept from drying up by plunging it to its rim in clean sand.

Such a house as we have described will cost from fifteen to twenty-five dollars per foot of length, according to the style and thoroughness of the work.

Many amateurs will not care for so expensive an arrangement, but will be content to have a small greenery of one apartment, attached to the dwelling house, and heated by a coil of pipe from the furnace in the cellar, or, where steam is used, by a steam pipe. There is a great deal of enjoyment to be had cheaply in this way, but it will hardly be necessary to give details, which must vary with the conditions of every case. The greenery must, however, be partitioned from the house so tightly that it can be smoked, without at the same time smoking the dwelling. A very convenient greenery may be cheaply made by fitting movable sashes between the posts of a piazza, to be moved in summer with all the furniture of shelves and pots. It may be heated by the furnace in the cellar; for this purpose it will suffice to place a heating coil of one-inch pipe, or a water-back, in the fire-pot of the com-

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mon furnace, connected with a system of circulation around the piazza floor; or if steam is used for heating the house it will be very convenient to extend it to the greenery.

For small greenhouses detached from the dwelling house, the hot water circulation will be found cheaper and more satisfactory than steam, and far better than the old fashioned flue, red-hot at one end and cold at the other. Steam has its advantages where several houses are to be heated from one fire, since it is easier to divide and regulate the heat than with hot water circulation; but for heating so simple a structure as we have described above, there is probably nothing so efficient and economical as a good hot water boiler. The combination of flue and boiler is not of much practical importance, the amount of saving in fuel being balanced by the annoyance of impaired draft, and the danger from poisonous gases escaping into the house to the destruction of its contents. The flue is also a cumbrous affair and is now little used.

REFERENCES TO ILLUSTRATIONS.

Scale ⅛ inch to 1 foot.

m. Apartment for Tropical Plants.
n. " " Hardy "
o. Cutting Bench.
q. Camellias and Ferns.
a. Coal Cellar.
b. Boiler Cellar.
c. Boiler.
d. Doors.
f. Foundation Walls.
h. Benches for Plants.
h'. Cutting Bench.
p. Flow Pipes.
p'. Return Pipes.
t. Tank.
v. Ventilator Sashes.
w. Windows.
x. Posts.
w. m. Windmill.

Discussion.

John G. Barker gave an account of the greenhouses at Pine Grove Cemetery, Lynn, of which he is superintendent. They are different from those considered by the essayist, as it was necessary to adapt them to the location. A plan was proposed by an architect, for which the means at command were insufficient, and the

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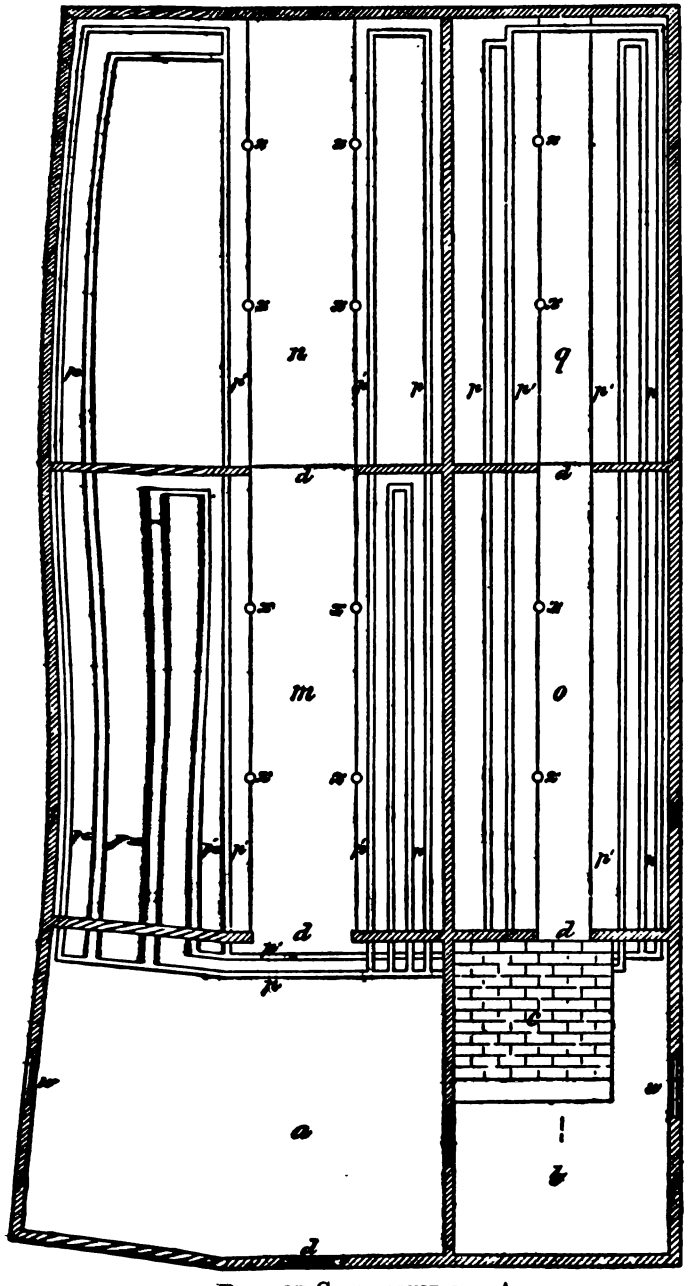

PLAN OF GREENHOUSE FOR AMATEUR.

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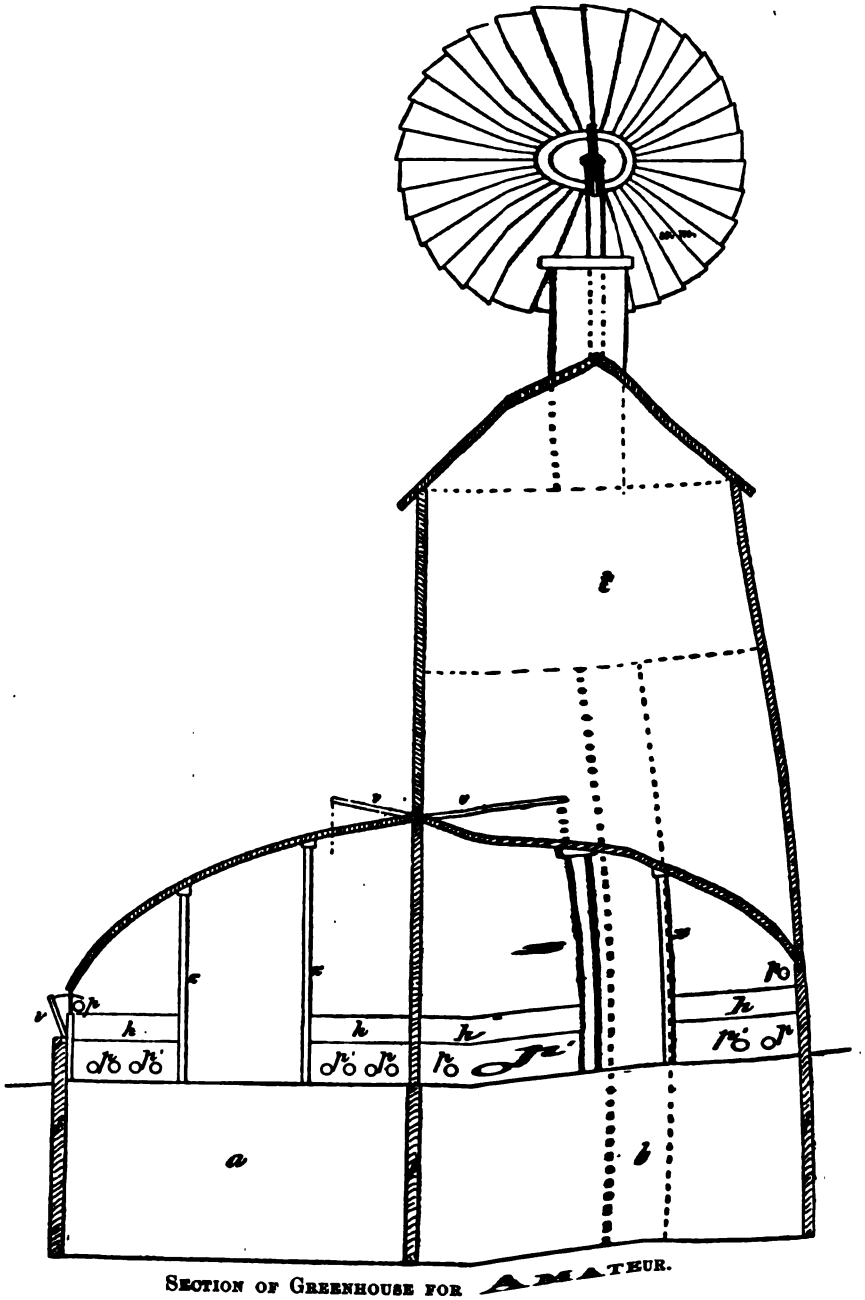

SECTION OF GREENHOUSE FOR AMATEUR.

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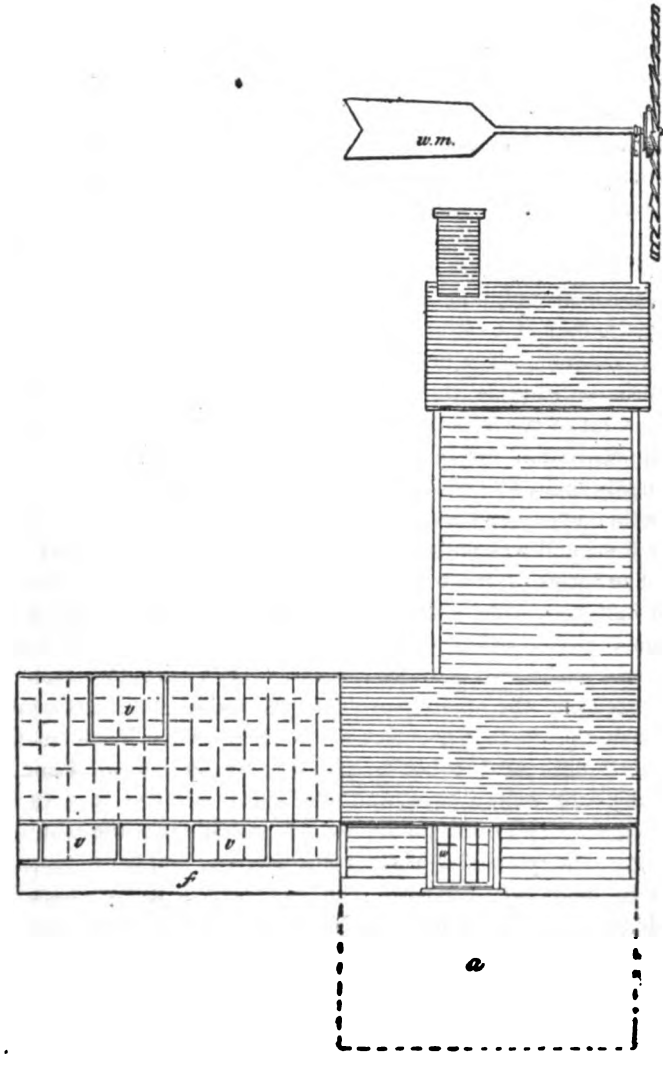

FRONT VIEW OF PART OF GREENHOUSE FOR AMATEUR.

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houses proposed were too large and not adapted to the situation. The place selected was a hill-side which it was desired to utilize. It was decided that a lean-to house was most eligible, and the front and back walls were constructed of split stone, found on the place. The house is fifty feet long, by fourteen feet wide, and eight and a half feet high. It has a fixed roof with a pitch of forty degrees, and is glazed with second quality double thick German glass, twelve inches by sixteen. The ventilators are two and a half feet square, and two feet apart. There is a bench on the front side, three and a half feet wide, under which cannas, abutilons, etc., are stored. The walk is two and a half feet wide. The house is used mainly for propagating coleuses and other bedding plants for summer decoration, and also plants for filling a large number of vases. Attached to it is a work-room, ten feet long, with a sky-light in the roof. The house is heated by a brick flue, the face of the furnace being in the potting-shed, so as to keep smoke and coal gas out of the house, and the coal bin is opposite the furnace. The appropriation for building it was $1,000, and though it was thoroughly built, $28 was left when it was completed.

Another house was wanted, and it was placed directly in front of the first, and was built a little larger, with only sufficient slope of roof to throw off the water, being fifty-seven feet long, fourteen and a half feet wide, and eight feet high. It is used for pelargoniums, aloes, palms, etc., and the palms never suffer from dampness. The roof is all sashes, three feet by six, the lower row being fixed and the others movable. This gives excellent ventilation when the weather becomes warm in spring. A cement walk runs the length of the house, with a bench in front. Four feet from the back wall, a brick wall was built, and filled in with soil, in which aloes and other plants are set, which saves the trouble of potting. The remainder of the house has a gravel floor, on which plants in large tubs are set. This house, also, is warmed with a hot-air flue, and the same coal-bin serves for both houses. Mr. Barker believes in keeping in all the heat, and has seldom had occasion to make up more fire after dark. He burnt ten tons of coal in both houses last winter. Both houses work exceedingly well, but in large houses a flue would not answer. The houses will take in pretty tall plants, and he has tried to utilize all the room. The appropriation for the second house was $600, and was not exceeded. The estimate of an architect for houses to

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afford equal accommodation with these was $5,500. The speaker thought that mistakes were often made in building houses too high.

President Hayes gave an account of his experience in building plant houses; the first being a conservatory attached to the rear of his city residence, which was planned by an architect, who estimated the cost at a thousand, or possibly twelve hundred, dollars. It was soon found that it would cost more, and the next estimate was $1,800, and next it was thought that with some improvements it might be built for $2,500. Then the war broke out, and the architect was elected an officer and went to the war, and when the conservatory was finished, the bills amounted to $6,000. With this experience, when he wanted a conservatory at his summer residence in Lexington, he determined to employ men who understood their business, and accordingly Messrs. Lord & Brigham, of Irvington-on-Hudson, N.Y., who make a business of constructing plant houses, furnished plans and estimates for a house about eighty by forty-five feet, and quite high, and the expense did not exceed the estimates. He wanted rather a cool house for azaleas, palms, etc., including a collection of camellias which he had procured from Ex-President Wilder and others, and it has worked very well, and he could recommend the builders. The conservatory has a grapery and rose house attached, which are heated by a small boiler.

William C. Strong thought the President's recommendation of greenhouse architects a wise one, but it would be still better for practical cultivators to study the subject and go by their own common sense. He agreed with the essayist that there are positions where flues will answer, but generally hot water is best. Possibly, for large establishments, steam may be more controllable, and more economical, though the last point is doubtful. Steam requires more attention; it must have a man to watch it night and day. The speaker could perceive no difference in the atmosphere between hot water and steam. Perhaps steam will give more heat in very cold weather, but plants may not grow as well in the immediate vicinity of the pipes. Cast-iron boilers are extravagantly high priced, and do not economize heat as well as wrought iron tubular boilers. Second-hand tubular steam boilers, of sufficient strength for hot water, can often be purchased at very moderate prices. He has one for which, with all the appliances, he paid $100, and which will do the work of four of the largest sized cast iron boilers, costing $250 each, and will stand for a dozen years with hot water.

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He had been much interested in the experiments in the use of vaporized petroleum for burning under common boilers. The inventor said that a boiler sufficient to heat ten acres was entirely practicable. It gives intense heat, and is used at the Norway Iron Works, in South Boston, for melting iron. He had no doubt of the advantage of hill-side greenhouses; the heat of the sun is a material factor in carrying one through the night.

Hon. Marshall P. Wilder preferred the atmosphere of hot water to that of steam. He has a hot water apparatus with copper pipes, put in forty-five years ago. The boiler has to be renewed once in eight years.

Mr. Philbrick compared the cost of heating by flues as recommended by Mr. Barker with that of heating with hot water. Mr. Barker's two houses have an area of 1,526 square feet, and he burns ten tons of coal. In his own lettuce house, with more than three times that area, he burns about fifteen tons—never more than eighteen.

Mr. Barker asked whether Mr. Philbrick began heating his lettuce house as early as he did his plant houses.

Mr. Philbrick replied that he heated his house for about six months, or whenever needed from October to May.

Col. Henry W. Wilson said that he had studied the subject under discussion for twenty years, and had had a good deal of experience in building plant houses. People study for a tasteful structure, when the first thing they should consider is the location, and, second, what plants are to be grown, and construct the house accordingly. Roses and smilax will not succeed in the same house. In 1868 the speaker built a small hot-bed, and the next year put on a monitor roof, and in 1870 he built a pit and heated it with hot water. The next year he put on an **L**, and raised ferns and smilax, cutting from two to three hundred yards of smilax at once. This went for two years, when he extended eighty feet in one direction and fifty in another, giving the plan the shape of a Gothic **F**. He had six or seven hundred pots of pinks, some dozens each of callas, camellias, azaleas, etc., giving him all the flowers he wanted for himself and his friends, and the sales paid all expenses. There is generally difficulty in getting uniform distribution of the heat; but he had his furnace in the centre of the house, and sunk so as to give a good circulation, and the thermometers at opposite ends never varied. By suitable arrangements of the pipes and

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valves, the amount of heating surface could be increased or diminished at the instant, and thus the temperature of the house could be raised more speedily than by depending solely upon the firing, and could be lowered more safely at times than by the admission of outside air. There were, in effect, three distinct methods of circulation of the water.

He had 2,500 square feet of glass, and never used above ten tons of coal in a winter. Heat is applied to greenhouses to make good the loss by radiation; and as much of this loss as can be should be prevented. Nearly all greenhouses are built above ground, but he put the walls of his below the ground, and used burnettized lumber for the sake of durability, and also because it is free from the mosses and fungi which grow on wood when not thus prepared. The walls above ground consisted of posts boarded and covered with tarred paper and clapboards. He would not use second quality glass, because it has lens-like imperfections, which are liable to burn the plants, and the first quality costs but little more. He used glass ten inches by forty, which gives fewer joints, and is cleaner and therefore better, and, if double thick, will stand most hailstorms. Hard pine is better for rafters than burnettized spruce, because, though the latter is more durable, it does not in burnettizing lose its propensity to twist. He put in mechanical ventilators, and knew they were secure; they are the best arrangement where they can be afforded. The house was demolished by a tornado in 1879, and was not rebuilt.

He had in his house eight or nine grape vines, which gave him two hundred pounds of fruit annually. The whole was taken care of by one man, and he could recommend the same general plan to others. He was troubled about propagating plants, but carried a branch from a hot water pipe under the propagating bench, with a valve to regulate the heat, and then had perfect conditions for proagating propagating — bottom heat, and cool air on top. Houses for the ground should be made very low, and are better if sunk in the ground, with the young plants near the top.

The best means of imparting heat is that which affords the desired temperature from the lowest temperature of the heating surface. Hot water pipes may be at a temperature of 180°, while steam pipes cannot be less than 212°, and with a pressure of three or four pounds to the square inch, will be 220°. Another great advantage of hot water pipes is their conservative quality, pre-

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venting sudden fluctuations of heat, there being nine hundred gallons of water in the same number of feet of four-inch pipes, while there would be only two quarts of water in the steam which would fill the same pipes and afford the same heat. There are two reasons which have hitherto led to the choice of hot water in preference to steam as a means of heating plant houses,—first, that the extreme dry heat of steam pipes is a source of discomfort to animal life, and must be equally unfavorable to the tissues of tender plants; second, the latent heat of the water gives it a sort of conservative quality, whereby frequent or violent fluctuations of temperature are avoided when it is not possible to give constant attention through the night.

Mr. Wilder said that he used second quality glass, and picked out the best, but could not avoid some imperfections, which are liable to burn the foliage of plants. Instead of whitewash to prevent burning he uses mutton tallow, melted and applied with a sponge, as thinly as possible, on a warm day. It does not discolor the glass to any extent.

Joseph H. Woodford said that a year ago he visited several establishments with a view of finding the best boiler for running an engine. He visited the Norway Iron Works, where petroleum vapor has been substituted for coal. He believed that this fuel will find its way to greenhouses as soon as boilers small enough can be supplied. At present the demand for large boilers is so great as to give the makers enough to do without making small ones. A barrel of oil, costing three or four dollars, would last a great while for heating a greenhouse. He had lately visited Edmund Wood & Co.'s greenhouses at Natick, where he saw ten thousand Maréchal Niel roses ready to cut, and large quantities of Baroness Rothschilds and Gen. Jacqueminots, besides other flowers and ferns in great variety. The whole establishment is heated by steam from a sixty horse-power Babcock & Wilcox boiler, with the best results he ever saw. The fuel used is peat, just as dug from the bog and mixed with one-third anthracite coal dust, which heated to perfection. The makers of these boilers have in a year and a half put in three million dollars' worth of them. They burn everything—cotton refuse, etc., with the natural draft. The first cost may be a little more than that of other boilers, but it would soon be saved by those who have a deposit of peat, of which there are great quantities near Boston.

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Notice was given that the subject for discussion on the next Saturday, would be "Carnations, Pansies, and Violets."

BUSINESS MEETING.

SATURDAY, December 22, 1883.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

The Annual Report of the Committee of Arrangements was read by the Secretary, accepted, and referred to the Committee on Publication.

The President, as Chairman of the Executive Committee, to whom a communication from the Worcester County Horticultural Society, in regard to the exemption of horticultural societies from taxation was referred, reported that the Committee were unanimously in favor of coöperating in the effort to secure such exemption, and had appointed a Sub-Committee to confer with the Worcester Society on the subject.

The President also reported that the Executive Committee had unanimously re-appointed George W. Fowle, Treasurer of the Society and Superintendent of the Building, and Robert Manning, Secretary and Librarian, for the year 1884.

Adjourned to Saturday, December 29.

MEETING FOR DISCUSSION.

CARNATIONS AND PANSIES.

C. M. Atkinson, who had been appointed to open the discussion, spoke first of the pansy, and described the properties of a perfect flower. Form is the most essential point, and includes not only shape but smoothness of margin and perfect flatness of petals, which must be so disposed as to form a perfect circle. Indeed, when the lower and two upper petals are removed, the two side petals will in first-class flowers meet at the upper and lower parts; for the petals to meet well above the eye, thus making the form of

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the shield complete, is of the utmost importance. A disposition to bloom flat is also desirable, and the contrast between a rough, uneven, frilled flower, and one which, without artificial means, will dispose of its petals evenly and smoothly, exhibiting its rotundity in all its perfection, will immediately fix the attention and catch the eye of the veriest tyro. Saw toothing is another defect, and sometimes occurs in flowers otherwise unexceptionable, and even though minute, it tells against them. Indentation of the lower lip often occurs in otherwise good flowers, and destroys their rotundity, which is absolutely essential.

The second point is substance of petal. Whatever may be the excellence of form, if the flower be flimsy and weak, its beauty is destroyed. The petals should be thick and velvety, thereby enabling the flower to stand well. On the third point, harmony or a proper distribution of color, there has always been much diversity of opinion, but the best judges hold it absolutely essential that the three bottom petals agree in shade, whatever be the color of the upper ones; and in selfs it is necessary that they should all assimilate. No flower with the ground color stained can be admitted as first-class; it is as great a defect in a pansy as a discolored bottom to the cup of a tulip. Whether it be a white, yellow, or any other colored self, it must be pure and steadfast, and the eye large and well defined; and the more the latter contrasts with the body color the better. If the color be black, crimson, maroon, or purple, the eye must be white or yellow, with no shading off. In belted flowers, or those with a margin of color encircling the three bottom petals, it ought to be of a uniform width throughout, and in a perfect flower of this class no triangular spot is seen. Size is the least of all the essential requisites to a good flower; in either a single flower or a collection, judges give to form, four points; substance, three; distribution or harmony two, and size, one.

The pansy has undergone some changes within the last twenty-five years; the class of fancy pansies, of which fine specimens have been shown here by E. L. Beard, has been introduced within that time. But the culture remains the same, the requisites being young plants, rich mould, and a regular degree of moisture. Those about to commence should procure a three light frame, a few dozen well selected plants, a cartload of good loam, and some rotten leaf-mould, sand, and thoroughly rotted cow manure.

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Horse manure should be avoided. The bed should be prepared as early as the ground and weather permit. It should not be exposed to the full glare of the sun; and if the soil is naturally poor, wet, sodden, heavy, or sandy, these evils must be counteracted by striking the medium. The plants should be set a foot apart and six inches from the edge of the bed, and should have a good watering after being planted, and the surface of the bed must be often stirred. In dry weather it must be watered with a fine hose every evening, not merely wetting the surface, but thoroughly. The beauty of the first bed will be over by July; if necessary to replant, young plants should be prepared in the interval from cuttings; or by dividing the old plants and adding manure a good bloom may be obtained in autumn. But a good substitute may be found in a few choicely selected verbenas, or other bedding plants, thus giving the amateur ample time to prepare a fine batch of plants for the coming year. Though the pansy suffers very little from frost, it should be well protected in very severe weather. To keep up a good variety, select the best seed and mark each color separately. Mr. Atkinson said that he had, at the time of speaking, plants in a three-light frame, which he should transplant in the spring into a border, shielded from the noonday sun by trees, where they have always done remarkably well.

CARNATIONS. The present perfection of this delightful "florist's flower" is the result of long and patient industry. At the beginning of the eighteenth century it numbered between five and six hundred varieties. Throughout the civilized world it is an especial favorite; its simple and graceful beauty, and, above all, its delicious fragrance, have an irresistible charm over all hearts. In its normal state it can be found among the Swiss Alps, and occasionally in the southern parts of England, upon the broad ridges of castle walls and ancient buildings.

The parent designated of the present carnation of the florist is botanically *Dianthus Caryophyllus*, and from this has sprung sufficient to supply the most capacious taste. It has a sportive power of self-variegation and activity, to keep even a morbid love of novelty in constant play; but such are the requirements of the present standard that scarcely one in a thousand possesses sufficient interest to command more than momentary attention. As excellence in variety has increased, fastidiousness has kept step to reject from the very name of carnation all such flowers as have the

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prevailing red color of the clove-pink, and all others, be what they may, which have not a ground of pure, unspotted, untinged white. All carnations, understood within these restrictions, are classified as Bizarres, Flakes, and Picotees, and are again distributed into two other sub-divisions. Bizarres are striped with two colors on the white ground, and have their colors in irregular variegations; Flakes are striped with one color on the white ground, and have their stripes large and extending across the petal. Picotees are pounced and spotted in a very diversified manner on their white ground, and are more hardy and generally smaller than the other classes. The bizarres generally show a greater proportion of one of the striping colors, yet those are held in the highest estimation which exhibit the two colors in equal proportion, with the stripes running parallel to each other and distributed equally over the flower. The same may be said of flakes, which too often exhibit too much or too little of the striping color. Those are the best which exhibit the striping and ground colors in well balanced proportions. Formerly the distinguishing character of the picotee was the notched or fringed edge, but such will not now pass muster, where judges and growers are even indifferently posted up. They must possess the smooth edge, or what is technically termed *rose leaf*, and their colors must be bright, clean, and well defined. Scarlet bizarres are striped on their white ground with scarlet and maroon, and the varieties of these are such as differ in the intensity of their colors. Crimson bizarres are striped upon their white ground with either pink and purple, or rose and purple. Flakes are distributed into three sub-divisions, viz., scarlet stripes, rose and pink stripes, and various hues of purple; but in each sub-division there is a great diversity in the shading of its characteristic color.

Picotees, which are very numerous and diversified in variety, are distributed into four sub-divisions, with respectively scarlet, crimson, rose, and purple colors, and are severally distributed into two groups, the one heavy-edged, or having the color thickly laid on round the margin of the petals, and the other feathered or light-edged, with the color touching the petals in an unbroken and very delicate line.

Much diversity exists as to the best method of cultivating carnations; it is a topic that has been very copiously discussed, but can be very easily and satisfactorily disposed of in a few words. In

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Europe they, i. e. "show varieties," are universally cultivated in pots; but that method is totally unsuited for practice here. Good, deep, garden soil (yellow loam is preferable), enriched with thoroughly rotten cow manure, some leaf soil, and, if too adhesive, some sand, are requisite. Dig deep and thoroughly, and when the weather is fairly settled, set out the plants nine inches by twelve apart, and stir the surface frequently. When the buds become fully swollen, and before they burst, a ligature should be tied around each pod, half-way down; when the bursting commences, take hold of each division of the calyx, and turn it down to the ligature. The weather about the time of flowering is usually bright and hot, thus prematurely hastening the development of the flowers. An evening visit with the water-pot, sprinkling in and around the plants, but not over the flowers, is beneficial. Shade, too, in the hottest part of the day is necessary. For the real amateur, cotton cloth, attached to a roller and fixed on a neat skeleton framework, so as to let up and down at pleasure, is the thing. Second-hand fishing nets or seines, stretched double over stakes sufficiently high to allow of walking under them, are a very good contrivance, and need not be moved until the bloom is over. In Europe they display six or eight flowers, supported by a stake, but the speaker said he liked a good mass rather than a few.

As soon as the "grass" is ready for layering, this should be done, thus obtaining strong plants by the middle or end of September, when they should be transferred to their winter quarters. These should be prepared by making a bed the size of your cold frame and planting it thickly; by the end of November, strew two or three inches of dry tan, or, which is preferable, pine needles, among them; put on the frame, add a few more pine needles, place the sashes over them, but give all possible air; exclude nothing but heavy rains, snow, and extreme frost. When bright, lovely, smiling May comes round again, transfer them to more agreeable and attractive quarters, and there induce them to become, as they truly are, "Jove's own flowers."

E. W. Wood was called on by the President, and said that the carnation is grown extensively under glass, and usually in a house by itself. Those who make a business of growing it, can afford to give it a separate house, as it does not do well with other plants, wanting a cooler temperature. The cuttings are put in in January,

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and after striking are potted in three-inch pots, and put in frames, where they grow slowly; early in May they are planted out. The speaker had set plants the first day of May, and on the third sufficient snow fell to cover them without doing any injury. The bloom depends on the strength of the plants. He sets them fourteen inches apart each way and nips them back during the summer; this is necessary to make them bushy. About the 10th or 15th of September, they are taken up and transferred to the greenhouse. Some cultivators put them in six or eight-inch pots, and he formerly did so, but now he put them directly into the beds, which succeeds better and saves labor. If the weather is warm, they must be shaded. They will come into bloom almost immediately. He had not succeeded in producing continuous bloom, but had seen it done. He has them in a house with a span-roof, where the sun does not strike for thirty days in winter, but in February they will bloom, and he will take them out about the 10th of June. He has cut as many blooms in this house on the 30th of May, as at any time.

The pansy is one of the most desirable and satisfactory flowers. It can be grown by everybody. He puts a hundred and sixty plants in a frame three feet by six, which is four times as many as he will leave there, and covers them with mats to keep out the frost. At the time of speaking they had been in bloom for some weeks, and had been uncovered but once. In spring he will take out three-quarters of them. The bed faces the south. He makes the soil as rich as he can.

William C. Strong said that for commercial purposes it is hardly necessary to pot small carnations singly; they may be taken from the cutting bed and set in "flats," and planted out about the first of May. He knew this method to be successful. The soil should be rich, but not with undecomposed horse manure, which when mixed with loam makes it too light; and is especially injurious in the house. A cool house, especially devoted to the carnation, is best.

Henry Ross said that he sows pansy seed in the house and pricks off into hot-beds, using the same soil as for lettuce. He puts in carnation cuttings in January or February, and plants out in May, in soil not richer than if for potatoes. They want a cooler house than bedding plants. In the house he formed a large bed for them on a plank bottom over the water-tank, with eight inches of soil, rich with manure, leaf-mould, and hot-bed material.

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Col. Henry W. Wilson said that the pansy can be cultivated very satisfactorily by ladies and young people, who can derive a great amount of pleasure from the cultivation of plants that would not take high rank when measured by established standards of excellence. He would not care to save seed unless the varieties were very choice. The soil should be the average compost of well rotted turf, sand, and well decomposed manure. The chemical action of undecomposed manure is very injurious. If the seedlings are planted in a box, they will fill the soil with roots so that it can easily be cut up into sections with a knife, and taken up with the plants when they are transplanted. Irrigating pansies and carnations is better than watering them over the flowers. He had effected it by placing a cask of water at the head of a sloping bed, and arranging little channels so that the water would flow among the plants. He objected to an arbitrary standard of perfection for pansies, as tastes might differ; some might fancy black flowers, while others might like the bronze.

Edward L. Beard said that the carnation is never seen in such perfection as in the humid climate of England. The average carnation here is not a success. The speaker lately received from England twenty varieties, in cuttings rooted in two or three-inch pots, which are as robust as cabbages, and this vigor is due to the conditions of climate. They are fond of lime and he puts lime rubbish in his pots, and they forsake all other soils for that. Lime is deficient in our soils. It is an enemy to all worms, which are very destructive to carnations, especially a little white worm that attacks the roots; but lime is a preventive of its injuries. In potting some carnations, he left two without lime, which were both attacked by this white worm and died, while all the others were promising. Our summers are too hot as well as too dry for carnations, and when cuttings are left, either by amateurs or commercial florists, to take their chance, they fail in getting strong plants. The new kinds are not grown to compare with the old varieties. The speaker has raised some good seedlings; among others a true scarlet, and he thought this a good field for raising seedlings. The carnation must have peculiar conditions of soil and atmosphere, and the red spider and green fly must be kept from them; many collections suffer from these insects.

The pansy is easy to grow, but it is not so easy to get a good strain; our growers have not the patience to comply with the

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necessary conditions. A package of seed will produce many varying kinds, but the florist's ideal is difficult to get. You may find in a package twenty-five good kinds, with perhaps one *rara avis*, and if you are willing to sacrifice the rest, and take up those saved, the last of April, and plant them on the north side of a fence, putting in a load of leaf-mould, and then go on with hybridizing, isolating the plants, you may get one pod of good seed from each plant. The pansy does not bestow its gifts at sight; like good people, good pansies are scarce. There is the same trouble with them as with carnations; they deteriorate in summer, and the speaker throws them away in midsummer. They will not form seed in a hot, dry atmosphere. He thought better strains could be procured from the continent of Europe, than from England. The wonderful English and Scotch varieties exist on this side of the Atlantic only in fiction, and the named varieties of this class are difficult to import. He has saved good seed and raised good varieties. The quantity was comparatively small, but some of the seed was of the best quality. Pansies must be brought into flower early in spring; those produced the last of May are poor in comparison with the early blooms. There is a mistake in manuring them too heavily in cold frames; he had planted some without a layer of manure underneath, which he sometimes gives them, and others with leaf-mould preponderating, and liquid manure as the plants came into flower, and they did better than those heavily manured. Heavy manuring breeds slugs, which are very injurious, especially in heavy clay soils, where they will cut the flowers all to pieces. The remedy is to strew soot among the plants. He would put his money into leaf-mould for pansies, rather than into manure. The only way to keep pansies from deteriorating in hot weather is to lift the plants from the frames, and set them on the shady side of a fence or wall. The pansy ought to be viewed by some standard, and there is no question that the large, regularly formed, and distinctly colored and marked flowers are more beautiful than the washy ones so common in commerce, where the colors are run together, without being distinctly outlined according to the florist's ideal.

Hon. Marshall P. Wilder confirmed what the preceding speakers had said, and added that he had grown the carnation only in pots, and that he could do nothing with them unless he kept them as cool and as near the light as possible. He wondered that with our

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clear, bright sun, which perfects seed so admirably, more had not been done here in hybridizing, especially with the encouragement derived from our success with the camellia and azalea, in which we have equalled, if we have not surpassed, any other part of the world.

Mr. Atkinson said that the high standard pansies, whose existence Mr. Beard had doubted, do exist, but the seed canot be purchased. Charles Turner told the speaker that anybody was foolish to expect to get the best quality of seed; that was always reserved. Every grower must save the best every time and always. You must save your own seed if you want the best, for the growers do not produce it in sufficient quantity. As to the standard of a perfect pansy, no one is compelled to adopt it, but it is absolutely necessary to have a high standard. The carnation is often found by the side of old walls, showing the importance of lime to its growth. In his remarks on the carnation he spoke of it exclusively in pot culture, and not of tree carnations.

The subject for the next Saturday was announced as "The Culture of Hybrid Perpetual Roses, for Private Gardens, for Sale, and for Exhibition Purposes."

BUSINESS MEETING.

SATURDAY, December 29, 1883.

An adjourned meeting of the Society was holden at 11 o'clock, the President, Hon. FRANCIS B. HAYES, in the chair.

Hon. Marshall P. Wilder announced the decease of Dr. Louis Édouard Berckmans, of Rome, Georgia, a corresponding member of the Society, a pupil of Van Mons, and a co-worker with Esperen, Bivort, and other leading European pomologists, and himself eminent among them. He moved the appointment of a committee to prepare memorial resolutions, which motion was carried and the Chair appointed Mr. Wilder, Leander Wetherell, and John C. Hovey, as that Committee.

The meeting was then dissolved.

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MEETING FOR DISCUSSION.

The Culture of Hybrid Perpetual Roses, for Private Gardens, for Sale, and for Exhibition Purposes.

E. W. Wood was called on, and said that he should speak first of roses in private gardens. Great improvements have been made in Hybrid Perpetual Roses in the last ten years, and especially in the continuity of their bloom, so that they are now much more desirable than formerly, and are better entitled to the name of Perpetuals. In laying out grounds, it was formerly an objection to beds of roses on a lawn, that they were not handsome after blooming, but, now, with careful selection of varieties, a bed may be made an ornament to the front lawn, or worthy of the most conspicuous place in the flower garden, from the time when they begin to bloom until frost, and will afford flowers for cutting every day; in short the Hybrid Perpetual Rose has become one of the most satisfactory flowering plants.

For market, Hybrid Perpetual Roses take precedence of all other flowers. Some florists have discarded all other flowers, and give their attention wholly to roses. We are favorably situated for growing Hybrid Perpetual roses under glass, especially the bright colored kinds, and in New York we may see in the florists' windows "Boston rosebuds" offered for sale. The New York florists have taken the most skilful rose growers from the houses here, but even then have not succeeded in equalling those grown here. More money is invested in the cultivation of roses for sale, than in that of any other flower, and the cultivation is increasing, both under glass and out-doors. It is one of the most profitable summer flowers. The showy newer varieties are valuable not only for their beauty, but for profit.

The increase in the exhibition of roses is shown by the very gratifying increase in the number of contributors to our shows. For cultivation under glass, it is a great help to bud roses on the strongest growing stocks, as they are much more vigorous and afford a profusion of bloom. This method is adopted by the best English exhibitors, and here Mr. Dawson, of the Arnold Arboretum, has been experimenting to ascertain the best stocks. It has been objected that stocks throw up suckers, which injure the grafts, and the speaker had seen such cases, and a friend related

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an instance where, on pulling off the suckers from a lot of imported roses, which appeared to be growing very vigorously, half of them were found entirely, and others nearly dead; but there is little difficulty in distinguishing between the shoots from the stock, and those from the graft, and the former will do no injury if taken off seasonably.

President Hayes said he had seen roses displayed in the florists' windows in Ottawa and Montreal, Canada, labelled "Boston buds."

William H. Spooner said that the rose is a thing of beauty and therefore a joy. It is the leading flower of our gardens today. He prefers them, both for garden and exhibition purposes, grafted on the Manetti stock; for light soils such are certainly preferable. The bud or graft should be inserted not more than six inches from the roots, and when finally planted should be set two or three inches under ground, when it will send out roots the first year. The past season has been very unfavorable to roses, on account of the extreme drought. Boieldieu, Mlle. Marie Rady, Comtesse Serenye, and Elizabeth Vigneron, have proved almost entire failures. The buds were so tight that they would not open. Mme. Gabriel Luizet proved beautiful under the trying season. Alfred Colomb, Jean Liabaud, Victor Verdier, and J. Stuart Mill, have done well; Magna Charta did admirably, growing well and flowering freely, and proving hardy. La Rosière, a dark kind, very much like Prince Camille de Rohan, if not identical with it, has done better than ever before, as have also Abel Carrière, and Jean Soupert. The Duke of Wellington was fine. The Climbing Victor Verdier is one of the best garden roses. The Cheshunt Hybrid has Tea foliage, and suffered from the winter, but in an ordinary season would prove hardy. La France and Souvenir de Mons. Boll did well. The Climbing Bessie Johnson is a very strong grower and flowered freely. Mabel Morrison proved not to be a good bloomer in dry weather. Firebrand proved a strong grower, but a poor flowerer. Marie Baumann, an old kind, did well. Baron de Bonstetten is among the best. Charles Lawson, a Bourbon, gave a mass of bloom, but is not suited for exhibition. John Hopper is good. The Duke of Edinburgh is not up to the standard. Jules Margottin and the climbing variety of the same, both did well.

Some of the Hybrid Perpetual roses have very beautiful foliage. Dupuy Jamain is almost as good in this respect as Baroness Rothschild. Captain Christy is a Hybrid Tea, with beautiful foliage, but

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a little tender. Mme. Charles Wood is a good flower, but the plant is a poor grower. Louis Van Houtte is the best rose of its color, but is not very hardy and has proved almost a total failure. Senateur Vaïsse is an admirable garden rose, and so is the Marquise de Castellane, in most seasons. Dr. Andry is perfectly hardy, but Mme. Eugénie Verdier is a little tender. Fisher Holmes is an improvement on Gen. Jacqueminot. With the multitude of varieties, the Hybrid Perpetuals are the class for general cultivation. Some of the newer shades are very desirable. Moss roses did not generally do well the past season. Of the three perpetual varieties, Salet, Mrs. W. Paul, and James Veitch, all flowered well; the last is a dark kind but not a very good grower. The Common Moss did not do well. Laneii, which is the next best, did well. The Crested Moss, which is never very healthy, will flower freely if it can be made to grow vigorously.

In answer to an inquiry whether as good varieties of roses could not be produced here as in Europe, Mr. Spooner said that they could, but the European growers have the advantage of larger stocks, to hybridize and produce seed from.

Joseph H. Woodford said that roses will stand any quantity of manure. He knew a grower who dug trenches between his roses and buried the contents of his cesspool in them to their great advantage. The reflection of the sun from the snow, when the sap is just starting, will burn the bushes; a little litter thrown over them will prevent this. It is true that budded roses are apt to throw up suckers, but any one at all familiar with them, can distinguish the suckers from the grafts. The best way is to put the whole stock under ground, and get them on their own roots. He would not grow roses long in one place, but would renew them once in four years, if wanted for exhibition. They are much better from young, vigorous plants than from old, gnarled roots. He has some fifteen years old, which he cuts in closely, and gets good blooms from them, but not as good as from younger plants.

Mr. Spooner said that he has plants of the Duke of Edinburgh, which have been standing ten years on the same spot, and give as good blooms as ever.

Edward L. Beard said that there is no question that roses deteriorate by standing long in one place. In England, rose growers exhibit flowers chiefly from one year old plants, known as maidens. Most of them change the soil every year; roses will exhaust it in

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two or three years, and by constant manuring it becomes too light and friable for the needs of the rose. The second year the plants are cut back. They must be shifted from year to year, for no feeding will take the place of shifting; manure will not supply the want of fresh loam. Where a rose has done well one season it will not always do so the next. The difference is caused by the difference in the ripening of the wood; in autumn the wood of some is hard and well ripened, while that of others is soft and green when the fall frosts come. The Baroness Rothschild is irregular in blooming, and in this climate is a failure out-doors; a good bloom is the exception. The transition of roses from rest to bloom is too sudden here, and they do not do as well as in England, where it is more gradual. The darker roses rarely reach perfection out-doors here, and many of the newer shades are of doubtful permanent success. Gloire de Bourg la Reine, for instance, fades so rapidly as to be worthless, and we shall have to adhere to the standard kinds. His great theory is that change of soil is essential to success, and rose growers are fortunate if they have the opportunity to act upon it.

William C. Strong agreed with Mr. Beard as to the necessity of change in soil, because in supplying food we change the character of the soil. The rose requires a compact soil; one approaching clay is best, but by applying cow manure we make the soil so light that the roots suffer. The Manetti stock is adapted to heavy as well as light soils. Mr. Strong alluded to the rose grafted on a Japan stock, exhibited by Mr. Dawson of the Arnold Arboretum, and said that he was struck with the result, but his own experience with that stock had not been satisfactory. The plants have not flourished as well as those on the Manetti stock. They have done well at the Arboretum, in light soil, out-doors, and have also succeeded in pots. There is no reason why we should not propagate roses here as readily as abroad; cuttings of soft wood root freely, and we can graft the Manetti stock with scarcely a miss; budding is not so successful. For the public, grafting is the best way of procuring plants.

Mr. Strong thought exhibitions of roses very misleading, and that there should be some way of making distinctions that would guide the public. The visitors are enthusiastic, and get the varieties they see in the prize stands, and are doomed to disappointment, because they are unable to give them the care requisite to

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produce perfect blooms, and it cannot be expected that the public generally ever will give such care. He agreed with the last speaker that the new roses, with delicate shades of color, are of doubtful permanent success, though possibly care may preserve them. Our exhibitions rival those of England, but the new hybrid kinds cannot be produced by the public generally. They want hardy kinds, like Baron Prevost, though they may not take the first prize. If we lead the public up to too high a plane, they will be discouraged and give up; but there are roses that can be produced by the majority of cultivators with great success, and that will give great satisfaction.

John G. Barker agreed with the last two speakers in regard to the advantage of changing the soil for roses; where there are but a few beds it is not difficult to change the plants and the soil. There is no doubt that beds of roses can be made beautiful through the season. He covers the soil in his beds with pine needles, and plants gladioli between the bushes, which hide the mulching, and then edges with candytuft, sweet alyssum, or mignonette. The kinds he has selected are all among those mentioned by Mr. Spooner. He cultivated Safrano, Bon Seline, and other tender kinds in a bed at the Botanic Garden, where they stood for several years. They were covered with leaves, and stakes were driven down, with cross pieces firmly fastened to the tops so that heavy snows should not break down the bushes. If taken up and put in frames they are preferable to bands of coleus and iresine for ornament. Both hardy and tender kinds can be made to yield such effects as cannot be produced by bedding plants.

Mr. Strong spoke of the Japanese *Rosa rugosa* as of very luxuriant and dense growth and fine foliage. It is beautiful in bud and flower (though the flowers are single), and also when the hips are ripe. It produces a striking effect at a distance.

Mr. Barker recommended grouping this species on the shady side of beds of hardy shrubs.

Mr. Wood said that a few years ago he set out twenty-four Bon Seline and the same number of Safrano roses, and put boards round them and tied down and covered the plants, and they came out in spring in excellent condition, but he did not cut a perfect bloom before the first of September, which was not long before they were cut off by frost. Both these kinds will form buds freely all

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summer, but the hot sun burns them, and therefore such a bed must be partially shaded; it will not do in the full sun.

Mr. Beard agreed with Mr. Wood in regard to tender roses, and said that he had planted thirty or forty bushes, which have stood the winters. The varieties chosen by Mr. Wood were not so good for the purpose as the more double kinds, such as Homer, Agrippina, and Souvenir de la Malmaison, which come to greater perfection. There is no question that they are hardy enough to stand the winter with sufficient covering. If they are killed down they will send up strong shoots, but will give no bloom until cool weather.

Mr. Spooner said that Gloire de Dijon, Devoniensis, etc., came through the winter with protection, but did not flower freely.

Hon. Marshall P. Wilder said that this discussion showed that the Society has made great progress in the fundamental principles of rose culture, and in establishing what constitutes a good rose, desirable for general cultivation here. Many years ago he carried off the Society's prize for the best collection of roses, for nine successive years. Since then he has seen great changes; we have learned to classify the collections, which were then miscellaneous, and have learned the constituents of a perfect rose. Many of the varieties mentioned by Mr. Spooner have taken their places as permanently as the Baldwin apple or Bartlett pear. Baronne Prevost, John Hopper, and Dr. Andry, have such constituents of excellence that, though better kinds in some respects may exist, all things considered they will retain their places for years to come. We have already got large collections of roses, but we desire fragrance, and hybridizing with Tea roses gives this, but it also gives tenderness, yet, by covering them up, and great care, we can carry the Hybrid Tea roses through the winter and get some good blooms, but they will never be permanent dwellers in our gardens. The Salet and Laneii are the only moss roses he cultivates; the latter is robust, and, unlike most moss roses, makes good roots. Mr. Wilder related an anecdote of George C. Thorburn, who imported a lot of the Common Moss rose, and wrote back to the European nurseryman that our American cultivators preferred roses with roots. The Laneii is hardy and a strong grower; it will take care of itself, and will not be displaced. It is of better color than the Common Moss, but not quite so mossy. The Manetti stock was introduced by Thomas Rivers fifty years ago, and the speaker had never found one equal to it; but the

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rose grower must be wide awake, and not let the suckers from the stock rob the graft. The stock must be buried below the surface. He wondered that more varieties of Hybrid Perpetual roses had not been produced here, and spoke of the success attained by the late Henry B. Ellwanger in this direction, and of the loss to horticulture in his death. Mr. Ellwanger's effort was to add fragrance to the Hybrid Perpetual rose, and he had produced one as good as the Alfred Colomb, which he named for the speaker.

President Hayes said that he had learned from these discussions how to cultivate roses. He had been successful in growing them, and believed in changing the soil; they do not give satisfaction when remaining in one place for a long time.

Mr. Strong dissented from the opinion that grafted roses generally root from the graft. His experience had been that it happens only in rare instances, and he doubted the advantage if they did, for the Manetti stock is so much more vigorous.

Mr. Spooner said that he knew that many varieties, among which are Prince Camille de Rohan, John Hopper, Magna Charta, Avocat Duvivier, and Jules Margottin, do root freely from the graft.

On motion of E. W. Wood, a Committee, consisting of John B. Moore, William H. Spooner, E. W. Wood, William C. Strong and Marshall P. Wilder, was appointed to report a list of the best hardy roses as continuous bloomers in out-door culture, and a list of the best hardy roses adapted to general cultivation.

The subject for the next Saturday was announced as "Manures; their Preparation and Application."

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REPORT

OF THE

COMMITTEE ON PLANTS AND FLOWERS,

FOR THE YEAR 1883.

By WILLIAM H. SPOONER, CHAIRMAN.

At the close of the year's official duties, there is some satisfaction in taking a brief retrospect of its work. While our position involves weekly labor and responsibility, there is compensation in the endeavor to add something to the general interest in floricultural subjects.

The exhibitions, as a whole, have not reached the standard of former years, with the exception of the Annual and Chrysanthemum shows; the latter was uncommonly fine, and the former, in choice plants, was uncommonly fine, and never equalled. It is many years since cultivators have had to contend with such a long-continued season of extreme drought, and it undoubtedly affected the general exhibits.

We desire to call attention in the Prize Schedule for 1884, to changes in the Azalea and Rose show in March, particularly to additional prizes for bulbs, which it is hoped will greatly add to the interest and success of the show; to the additions at the June Exhibition, in June, and also to the important changes and additions to the prizes for the Chrysanthemum Show.

We will first notice the

AZALEA AND ROSE SHOW.

MARCH 22.

For the display of Indian Azaleas, we were again indebted to Hon. Marshall P. Wilder, whose enthusiasm in the cultivation of this beautiful plant continues unabated. The prizes were all awarded to Col. Wilder, with the exception of one for a specimen plant, to John L. Gardner.

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Hybrid Perpetual Roses, in pots, were very poor. Of cut blooms, an unusually fine display was made by John B. Moore & Son and William C. Strong; there were also splendid blooms of Maréchal Niel, from E. M. Wood & Co., — the largest and most perfect specimens of this rose ever shown in our Hall. Mr. Wood's facilities for growing this beautiful rose are unsurpassed; he could cut at one time about ten thousand blooms.

Orchids were exhibited by H. H. Hunnewell and F. B. Hayes. Greenhouse plants were shown by H. H. Hunnewell and John L. Gardner. There was no exhibit of hardy shrubs, cyclamens, pansies, or tulips. Fine Heaths were shown by Francis B. Hayes and John L. Gardner; the latter also exhibited excellent Primulas. Good Cinerarias were presented by William Patterson, and the best violets shown for several years were also from him, and from John L. Gardner. The latter was the only contributor of forced bulbs, and, as usual, excelled in well-grown hyacinths. Camellias were exhibited by Francis B. Hayes, Hovey & Co., and Marshall P. Wilder.

E. M. Wood & Co. contributed a group of the beautiful *Lilium eximium Harrisii.*

Woolson & Co., of Passaic, N. J., presented an interesting collection of Narcissus, a class of plants rapidly becoming popular for forcing and for garden culture. E. L. Beard's display of Fancy Pansies, was remarkable, not only for the wonderful beauty and variety of color, but for the large size and perfect form of the flowers; they were the best ever shown.

Henry R. Comley exhibited seedling carnation No. 1; color, pure white, serrated edges, perfect flower, with no indication of bursting; very fragrant and a free bloomer. Also, No. 2, white, inner petals delicately tinted pink, serrated edges; and No. 3, creamy white, serrated edges.

PELARGONIUM EXHIBITION.

May 12.

This was again a failure, not a single competitor offering for any of the prizes for pelargoniums.

John L. Gardner and Marshall P. Wilder were contributors of Indian Azaleas; from the latter came Louis Van Houtte; color, delicate rose, edged white, lower divisions dark purple; also,

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Mme. Iris Lefebvre, color pure white, striped with pink; and Jean Vervaene. The most noticeable plant of the exhibit was from S. R. Payson, viz: *Dendrobium Falconeri.*

Admirably grown Tulips were shown in good varieties by John L. Gardner, and Hyacinths by Miss E. M. Harris. From William A. Bock came excellent seedling Pelargoniums; there were also fine named kinds from E. Sheppard.

RHODODENDRON SHOW.

JUNE 9 AND 13.

The dry weather proved a serious drawback to this exhibition, and the postponement of the awards of the Hunnewell Premiums from the 9th to the 13th was an unfortunate error in judgment on the part of the Committee. H. H. Hunnewell and President Hayes contributed fine blooms on the 9th and also on the 13th (the former not competing for the prizes), but the very warm weather had seriously affected the flowers by the 13th.

President Francis B. Hayes was the chief contributor for the leading prizes, receiving the first prizes for twenty-four, twelve, six, and three tender varieties; and also for a single truss of any tender variety, which he took with Duchess of Bedford.

John L. Gardner was first for eighteen hardy varieties, and Hovey & Co. were second. President Hayes was first for ten hardy varieties.

E. Sheppard was the only contributor of Hardy Azaleas, and received the first prize. The awards for Tree Pæonies and German Iris were made on the 9th; the first, as usual, to Marshall P. Wilder; and that for Iris, to Francis B. Hayes.

Cut flowers were excellent, the display being made by W. K. Wood, Mrs. E. M. Gill and Miss S. W. Story.

Hardy Clematis were shown, of better quality than for several years, by Joseph H. Woodford, and John B. Moore & Son.

Francis Parkman presented some very good seedling Ghent Azaleas.

From Hovey & Co. came seedling Cereus No. 2, C. M. Hovey. From the same came also a semi-double seedling Azalea; color, pure white with lemon centre.

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ROSE AND STRAWBERRY EXHIBITION.

JUNE 26.

Probably no plant suffered more from the extremely dry season than the Rose, especially when this followed a severe winter like the last; from these causes the Annual Rose Exhibition did not equal that of last year. A large number of flowers were shown, but none of them were of superior quality. Sunday and Monday immediately preceding the show, were among the hottest days of the season, so that many of the best blooms were burned on the bushes. Such varieties as Alfred Colomb, E. Y. Teas, and Boieldieu, were destroyed for exhibition purposes; even Mme. Gabriel Luizet, one of the finest of all roses for general culture, could not bear the severe scorching, while the dark varieties, such as La Rosière, Abel Carrière, Prince Camille de Rohan, Jean Liabaud, and Mons. Boncenne, were badly burned. The principal contributors were John B. Moore & Son, John L. Gardner, Francis B. Hayes, Warren Heustis, John S. Richards and William H. Spooner. Ellwanger & Barry, of Rochester, N.Y., presented a large collection.

SUBSCRIPTION PRIZES FOR HYBRID PERPETUAL ROSES.

These were again sharply contested for.

A Silver Vase, value $50, for twenty-four roses of different varieties was awarded to John L. Gardner; no list of varieties was furnished.

A Silver Vase, value $15, for three roses of different varieties, to Warren Heustis.

A Silver Vase, value $25, for six roses of different varieties, to John S. Richards.

A Silver Vase, value $15, for three Roses of one variety, to John L. Gardner for Abel Carrière.

A Silver Vase, value $25, for six roses of one variety, to Francis Skinner, Jr., for Charles Lefebvre.

A Silver Challenge Vase, value $200, for twenty-four varieties, three specimens of each, to John B. Moore & Son, for the second time. The varieties shown were:

Abel Carrière,	Annie Wood,
Alfred Colomb,	Baroness Rothschild,

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Boieldieu,
Camille Bernardin,
Comtesse de Serenye,
François Michelon,
Hippolyte Jamain,
Jean Soupert,
Magna Charta,
Marchioness of Exeter,
Maurice Bernardin,
Mme. Boutin,
Mme. Gabriel Luizet,
Mme. Marie Finger,
Mme. Victor Verdier,
Mons. Boncenne,
Paul Neyron,
Perfection de Lyons,
Pierre Notting,
Prince Camille de Rohan.
Souvenir de Spa,
Thomas Mills.

SOCIETY'S PRIZES.

For twenty-four distinct varieties, two of each, John B. Moore & Son were first, with

Alfred Colomb,
Baroness Rothschild,
Barthélemy Joubert,
Boieldieu,
Camille Bernardin,
Caroline de Sansal,
Charles Turner,
Duke of Connaught,
Duke of Edinburgh,
Dupuy Jamain,
Étienne Levet,
Fisher Holmes,
Jean Liabaud,
Jean Soupert,
Marie Baumann,
Marguerite de St. Amande,
Mme. Victor Verdier,
Paul Neyron,
Prince Camille de Rohan,
Richard Laxton,
Richard Wallace,
Senateur Vaïsse,
Souvenir de Spa.
S. Reynolds Hole,

For the best twelve and six, J. S. Richards was the successful competitor; no list of varieties was furnished.

Moss Roses. — For the best six, the first prize was awarded to John B. Moore & Son; for the best three, to William H. Spooner, for Crested, Common, and White Bath.

All the prizes for the general display were awarded, the contributions being numerous; the first was gained by Norton Brothers.

STOVE AND GREENHOUSE PLANTS. — The best six varieties were contributed by John L. Gardner and Hovey & Co. For a single specimen, the first prize was given to John L. Gardner, for *Erica ventricosa Bothwelliana*. Of Orchids, three varieties were presented by F. L. Ames and R. M. Pratt, receiving the first and

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second prizes, respectively. For a single plant, the prize was awarded to H. H. Hunnewell, for *Odontoglossum vexillarium*. A miscellaneous collection of Orchids was exhibited by F. L. Ames.

Clematis were shown by Francis B. Hayes; excellent seedling Gloxinias by John B. Moore & Son; displays of flowers by E. Sheppard, Mrs. L. P. Weston, Miss S. W. Story, and Mrs. E. M. Gill. From C. J. Power came a collection of plants grown in moss, and from John C. Hovey came the Herbaceous Pæony, No. 3, Grandiflora; flower large, very double, opening flat; color, light rose, very fragrant,

ANNUAL EXHIBITION.

September 18, 19, 20, and 21.

The arrangement of this exhibition was entirely different from any adopted in former years, and it seems to us a change in the right direction. The plant and flower department of our shows is constantly increasing, and it has been apparent for several years that more room was needed for the proper display of the plants. This year the entire upper hall was devoted to plants and flowers, the former being arranged on platforms on each side of the hall, in front of the mirrors, thus giving more space to each contributor. The reflection of the plants in the mirrors, added greatly to the general effect. Between the mirrors were stands for cut flowers, while in the centre of the hall tables were placed for miscellaneous displays of plants and flowers. This arrangement proved much more satisfactory to exhibitors, and a large number of visitors expressed their appreciation of the change.

Stove and Greenhouse Plants. — In the display of these, F. L. Ames was first, with

Alocasia Sedeni,	*Croton Mortii*,
Alocasia Thibautiana,	*Dion edule*,
Alocasia zebrina,	*Kentia australis*,
Anthurium Veitchii,	*Maranta Makoyana*,
Anthurium Warocqueanum,	*Maranta Veitchii*,
Asparagus plumosus nanus,	*Phyllotœnium Lindeni*.

In Specimen Flowering Plants, President Francis B. Hayes received the first prize for six varieties. For a single specimen,

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F. L. Ames was first and second with *Dipladenia Boliviensis* and *Epidendrum prismatocarpum*.

For VARIEGATED LEAVED PLANTS, six varieties, Hovey & Co. were first, with

Alocasia macrorhiza,	*Eurya latifolia*,
Ananassa sativa,	*Phormium Colensoi*,
Dieffenbachia Bausei,	*Yucca quadricolor*.

The best single specimen came from John L. Gardner, *Eurya latifolia var*.

For CALADIUMS, the first and second prizes were awarded to Waldo Adams.

For FERNS, six varieties, to F. L. Ames, for

Davallia Mooreana,	*Nephrolepis davallioides furcans*,
Gleichenia Mendelii,	*Polypodium ornatum*.
Lastræa Richardsii multifida,	
Microlepia hirta cristata.	

Mr. Ames was also first for Adiantums, with

A. concinnum latum,	*A. scutum*,
A. Peruvianum,	*A. trapeziforme*,
A. princeps,	*A. Williamsii*.

For a TREE FERN, Hovey & Co. were first with *Alsophila australis*.

DRACÆNAS, six varieties, came from S. R. Payson, viz.:

D. amabilis,	*D. Hendersonii*,
D. Baptistii,	*D. Shepherdii*,
D. Goldieana,	*D. Youngi*.

For CROTONS, F. L. Ames was first, with

Baron Frank,	Neville,
Cronstadti,	Prince of Wales,
Hawkeri,	Queen Victoria.

For a single specimen of PALM, the first prize was awarded to Hovey & Co. for *Pritchardia Pacifica*.

NEPENTHES, — three plants; the first prize for these was awarded to F. L. Ames, for *N. Hookeriana*, *N. Intermedia*, *and N. Rafflesiana*.

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AGAVES, CACTI, and SUCCULENTS were shown by Hovey & Co., receiving prizes.

GLADIOLI.—This part of the exhibit was perhaps the poorest for many years, owing doubtless to the drought; E. Sheppard was the only contributor.

DAHLIAS were excellent, from John L. Gardner, Francis B. Hayes, C. W. Hoitt, of Nashua, N. H., James Willey, and John Parker.

CUT FLOWERS, considering the unfavorable season, were remarkably good, Mrs. E. M. Gill, Mrs. L. P. Weston, and President Hayes, being the contributors.

One of the most attractive and interesting features of the exhibition, was a collection of *Nymphæas*, *Victoria regia*, and *Nelumbium speciosum* from E. D. Sturtevant of Bordentown, N. J. This exhibit was made at the request of your Committee, and the result fully justified their efforts; the two tanks which Mr. Sturtevant filled with flowers and leaves were constantly surrounded by admiring visitors, and were the special novelties of the display.

Mr. Sturtevant has kindly furnished us with the following detailed account of his method of culture.

"I have a basin in my garden, built of brick and cement, fifty feet by thirty-six, and two and a half deep. I find that in such a basin, the water is more readily warmed by the sun than in a pond with a bottom of natural earth. This extra warmth is of the greatest service in growing the tender Nymphæas, and is no detriment whatever to the growth and health of the hardy ones. Soil is not spread over the whole bottom of the basin, but is placed in compartments of cemented brickwork, about ten or twelve inches deep, or in wooden boxes, placed at various intervals. Abundant root room, and room for the spread of the foliage is necessary for the development of fine specimens. Soil from the bed of a pond or river is not at all essential. The compost which I use is simply ordinary garden loam and good horse or cow manure, in nearly equal quantities. The hardy varieties are planted out permanently. Of the tender varieties, such as *Nymphæa Devoniensis*, *N. dentata*, etc., in March or April I take tubers about the size of a hickory nut, pot them in three-inch pots, and place in a tank of water under glass, which is kept steadily at a temperature of about 80°. They soon begin to grow and are shifted perhaps once into larger pots before planting out. Early in June, or as soon as the water is

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warm enough for bathing with comfort, the young plants are turned out of the pots into the beds of soil in the basin. No artificial heat whatever was given, after planting out, to the plants which bore the flowers exhibited by me in Boston. Grown in this manner, *N. Devoniensis* and *N. dentata* have produced flowers twelve inches, and leaves twenty-five inches, in diameter, a single specimen covering a space twenty feet across.

No attempt is made to winter very large flowering crowns; they are worthless, and only the small tubers which form around the flowering plant during the growing season are preserved. These ripen off and shed their leaves in autumn, and are placed, a quantity together, in ordinary flower-pots, and covered with clean sand. These pots are placed in tubs or tanks of water in a greenhouse. The tubs are placed in some position where the water is kept at a temperature of 60°. Treated in this manner the bulbs generally remain dormant until spring; though they may be wintered in a lower temperature, I have found 60° the safest. The purple and blue species are increased only by seed. Young plants of these, kept in pots during the summer, will in autumn ripen off into tubers which are wintered in the same manner as the other kinds. The following is a list of those exhibited:

Nymphæa alba candidissima, *Nymphæa pygmæa*,
" *dentata*, " *Zanzibariensis*,
" *Devoniensis*, " *rubra*,

The leaves and flowers of the *Victoria regia* exhibited, were taken from a plant grown in the open air, with the aid of some artificial heat. It was raised from a seed which germinated about Christmas, 1882. The plant produced its first flower July 20, 1883.

New and Desirable Plants. At this Exhibition we had from Messrs. Hovey & Co., a plant of *Ficus elastica aurea var.*, a new variety of recent introduction—a form of India-Rubber plant, with pretty golden-edged leaves.

From E. L. Ames, *Nepenthes Mastersiana*, described as a handsome hybrid between *N. sanguinea*, and *N. distillatoria*, the pitchers large, cylindrical, and of a deep red color. Also *Aralia Chabrieri*, an elegant small growing species, with linear leaves of a deep green color, the midrib bright orange.

From H. H. Hunnewell, *Cattleya aurea*, in the way of *C. Dowiana*, but rather lighter in color; and *Osmanthus ilicifolius var.* (Japan

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Evergreen Oak). Mr. Hunnewell also exhibited a beautiful assortment of plants, which were not entered for competition in the prize collections.

From David Allan, gardener to R. M. Pratt, *Polypodium plumosum*. The general collection of plants, including Crotons, Ferns, and Lycopods, of Mr. Allan, was one of the most attractive and useful to the horticulturist ever made in our exhibitions, and reflected great credit upon the cultivator.

Native Flowers were largely contributed by Mrs. P. D. Richards, E. H. Hitchings, Carrie S. Leeds, Frank H. Forbes and Mrs. G. R. Peckham.

From E. & C. Woodman came a new Coleus, Progress.

Miss E. H. Craft and Miss Annie M. Tilley presented designs of dried flowers.

CHRYSANTHEMUM SHOW.

November 8 and 9.

The opportunity of observing the "Glory Flower" in all its varied hues, was this year far superior to any previous occasions, the collections of plants being larger and finer than ever before.

Dr. H. P. Walcott staged a large and elegant variety, as did also E. W. Wood. Norton Brothers, Marshall P. Wilder, John L. Gardner, and Hovey & Co., furnished excellent plants, but of a smaller size than the first two exhibitors. Cut Chrysanthemums were shown by Edwin Fewkes, H. P. Walcott, the State Lunatic Hospital, at Worcester, and E. W. Wood, to whom were awarded the prizes. Cut blooms were also shown by Mrs. E. M. Gill, Mrs. L. P. Weston, E. Sheppard, W. H. Lincoln, and V. H. Hallock, Son, and Thorpe, of Queens, N. Y.

For six Chrysanthemum plants, Large Flowered varieties, H. P. Walcott was first, with

Empress of India,	Lady Hardinge,
Fingal,	Nil Desperandum,
Jardin des Plantes,	Prince of Wales.

E. W. Wood was second, with

Bouquet Fait,	Hiver Fleuri,
Elaine,	Peter the Great,
Fair Maid of Guernsey,	The Damio.

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For four Pompon Chrysanthemums, H. P. Walcott was first, with

Curiosity,	Mlle. Marthe,
Salamon,	Golden Mlle. Marthe.

E. W. Wood was second, with

Golden Circle,	Mongolfier,
Semiramis,	Mlle. Marthe.

For a specimen plant, Large Flowered, the first prize was awarded to H. P. Walcott, for Crimson King, and the second to E. W. Wood, for Snowball.

For a specimen plant, Japanese, the first prize to H. P. Walcott, for Triomphe du Châtelet, and the second prize to E. W. Wood, for Elaine.

For a specimen plant, Pompon, the first prize was awarded to E. W. Wood, for Golden Circle, and the second to H. P. Walcott.

For display of plants of all classes, the first prize was given to H. P. Walcott, the second to E. W. Wood, and the third to Norton Brothers.

For twelve cut blooms, Large Flowered or Chinese, the first prize was taken by Edwin Fewkes, with

Antonelli,	Mabel Ward,
Baron Beust,	Pink Perfection,
Crimson King,	Prince Victor,
George Peabody,	Sunflower,
Jardin des Plantes,	Venus,
Lord Derby,	White Eve.

The second prize went to H. P. Walcott, and the third to the State Lunatic Hospital at Worcester.

For six cut blooms, the first prize was awarded to Edwin Fewkes, for

Empress of India,	Miss Mary Morgan,
Guernsey Nugget,	Prince of Wales,
John Salter,	Temple of Solomon.

The second to H. P. Walcott, for

Crimson King,	Lord Wolseley,
Empress of India,	Prince Alfred,
John Salter,	Queen of England.

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The third prize was awarded to E. W. Wood.

In the display of thirty varieties of Pompon and Japanese cut blooms, H. P. Walcott was first, Edwin Fewkes second, E. W. Wood third, and the State Lunatic Hospital, Worcester, fourth.

Seedling Chrysanthemums were again shown in considerable numbers, grown from American seed, and were remarkably fine. Dr. H. P. Walcott exhibited a number of new varieties in cut blooms, several of them with very noticeable flowers. His seedling, Pontiac, raised two years ago, evidently of the same parentage as the variety President Parkman, which it resembles in habit of growth, foliage, and time of flowering, is very full, of a soft canary color, a profuse and early bloomer, and thus far has resisted mildew in a very marked way.

E. W. Wood also exhibited some very excellent seedlings, grown from seed raised by himself; several of them were equal to some of the kinds now in commerce.

For ORCHIDS, three varieties: the first prize was taken by F. L. Ames, with *Vanda cærulea*, *Cypripedium Sedeni* and *Odontoglossum Andersoni*, and the second by E. W. Gilmore, with *Oncidium ornythorhynchum*, *Lycaste Skinneri* and *Oncidium Forbesii*.

For a single plant, the first prize went to F. L. Ames for *Cypripedium Harrisianum*, and the second to E. W. Gilmore for *Dendrobium formosum*.

David Allan, gardener to R. M. Pratt, exhibited a beautiful specimen, the finest ever shown here, of that curious plant, *Ouviranda fenestralis*, the Lace or Skeleton plant, for a description of which see "Curtis's Botanical Magazine," Vol. 82, plate 4894. Mr. Allan also presented a very beautiful and rare collection of cut flowers.

F. L. Ames supplied a miscellaneous collection of orchids and cut flowers.

MISCELLANEOUS EXHIBITS.

Camellias were shown by President Francis B. Hayes, for several weeks in succession, of finer quality than ever before.

January 2d, W. C. Page exhibited a seedling Carnation, called Victor; color, bright crimson pink, striped, edges serrated, fragrant.

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February 17th, several seedling Carnations were shown by Sewall Fisher, viz.:

Fisher's Early White, raised in 1878, from pistillate parent, Degraw; very early, pure white, very fragrant, and with no indication of bursting.

Anna Webb, a large flower of deep crimson-maroon color, serrated edges; very fragrant, does not burst.

Dana, bright pink color, not large.

Jessie Lee, a large flower, white edges striped with pink, bursts.

Maria, color, rosy white, striped with dark pink, some of the petals clear rose.

Marion, a seedling of 1882; pistillate parent, Early White; staminate parent, Cardinal; color, creamy white, the edges of the petals delicately pencilled with deep pink lines; no indications of bursting in the flower.

Shawmut, a seedling of 1882; staminate parent, Astoria; ground color pale yellow, edges flecked with red.

Mr. Fisher has entered his seedling carnation, Fisher's Early White, for the Prospective Prize for a seedling flowering plant. Your Committee at the invitation of Mr. Fisher, visited his establishment at Framingham Centre, in December, 1882, when they saw this carnation growing in perfection, together with other seedlings. Mr. Fisher claims for it earliness and productiveness, and under his culture it fully justified the claim; the plants looked healthy, and were full of buds and flowers; the beds were mulched with tobacco stems, which seems to be an excellent system for promoting the health of the plants. As this variety is in the hands of several cultivators, the Committee prefer to wait another year, before recommending any further award.

April 9th, V. H. Hallock, Son, & Thorpe of Queens, N. Y., sent a large collection of seedling carnations which reached the rooms too late for the meeting of the Committee. The collection contained some very good varieties; the flowers were considerably wilted before the Chairman saw them, but the following varieties seemed the most noticeable:

Black Knight, very dark.
Charles Henderson, bright pink, fringed.
Cymbeline, bright lemon, bordered and flaked orange.

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Fairy, white, beautifully scalloped purple.
Jeanette, pure white.
Mrs. A. Rolker, delicate rose, fringed.
Petunia, white, bordered and flaked purple.
President Wilder, very dark maroon, fringed.
Robert Manning, scarlet.
Valentine, white, deeply flaked and edged pink.

February 18th, H. H. Hunnewell exhibited a magnificent collection of cut Orchids in variety; the finest display ever made before the Society. The same day came from President Hayes an excellent specimen of the beautiful *Clianthus Dampieri*, and from John L. Gardner a bunch of fifty flowers of the charming violet Marie Louise, the finest samples of this variety that we have ever seen, being immense double flowers.

March 3d, Edward L. Beard presented an admirable group of Hyacinths, Lily of the Valley, and Narcissus; and again on the 10th, a fine collection. Hon. Marshall P. Wilder exhibited Azaleas in bloom, two years from the seed.

March 31st, from F. L. Ames came a collection of cut Orchids excelling anything of the kind he has ever before shown.

During the early spring months, John B. Moore & Son and William C. Strong were frequent exhibitors of Hybrid Perpetual Roses, making larger and more frequent displays than ever before.

April 7th, Edwin Fewkes placed upon the tables two new heliotropes, Swanley Giant—very large, and White Lady.

April 14th, from Woolson & Co., Passaic, N. J., came *Primula Sieboldii* in variety, Narcissus, and *Chionodoxa Luciliæ*, or Glory of the Snow.

April 21st, Marshall P. Wilder sent Azalea Mme. Charles Van Eeckhaute, color, pure white, crisped petals.

July 7th, Francis Parkman exhibited a beautiful and striking collection of Venetian Poppies in various colors.

July 14th, Dr. H. P. Walcott presented a group of Delphiniums, which have never been excelled, if equalled; the flower spikes were large, full and perfect in form.

August 11th, William H. Spooner placed on the table a seedling Gladiolus, No. 500; in color, the three or sometimes four or five lower divisions bright lemon shading to white, tipped scarlet; the other divisions rosy carmine to scarlet, a white line running through each petal; full spike, strong grower. Also No. 501, a

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cross between Diamond and Richard Cœur de Lion; color, pale rose, profusely striped with carmine pink, a white stripe extending through the centre of each of the upper divisions; purple throat, similar to Richard Cœur de Lion; lower divisions deep carmine pink; a strong grower.

Notwithstanding the excessively dry weather of the season, the exhibition of Gladioli was much finer in prize varieties than for several years. Those of Mrs. T. L. Nelson and O. B. Hadwen, of Worcester, were remarkably good, as were also those of F. Bacheller, of Lynn.

Messrs. C. L. Allen & Co., of Queens, N. Y., presented a very good variety of Seedling Gladioli, three varieties of which they had named Martha Washington, Emma Thursby, and Bayard Taylor. The general display of miscellaneous flowers was one of the best of the season. President Hayes contributed a choice collection of Hybrid Perpetual Roses, Dahlias, etc., Warren Heustis about two dozen very excellent specimens of the same; and Edwin Fewkes, fine roses. Ex-President J. F. C. Hyde, presented a group of his beautiful Gladiolus, Hyde's White; James Cartwright exhibited fine seedling Gladioli; from Mrs. L. P. Weston came a large collection of cut flowers, and from E. L. Beard a small number of flowers of his excellent strain of seedling Tuberous Rooted Begonias. O. B. Hadwen was awarded the prize for a single spike of Gladiolus, the variety being Baroness Burdett-Coutts.

F. Bacheller was first for ten spikes, with

Andromeda,	Jupiter,
Arabi Pasha,	Leander,
Baroness Burdett-Coutts,	Marie,
Beatrix,	Meyerbeer,
Carnation,	Parmentier.

In Phlox Drummondi, Mrs. T. L. Nelson was first with an admirable collection in well assorted varieties. President Hayes contributed the variety Violacea, of very deep color. From John C. Hovey, came *Montbretia crocosmæflora.*

August 25th, Asters were shown, which were remarkably good considering the dry weather, by E. Sheppard, John L. Gardner, Francis B. Hayes, James Nugent, M. B. Faxon, and Mrs. E. M. Gill.

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From R. T. Jackson came *Campanula rotundifolia* var. *alba*, with a small white flower, collected at Trenton Falls, N. Y.

September 1st, the display of *Lilium lancifolium* and Tropæolums, was very meagre — the poorest for many years. In Single Dahlias, there was no competition for the prizes. Marigolds were of inferior quality.

Mrs. P. D. Richards presented a collection of twelve species of Solidago (Golden Rod), viz.:

S. altissima,	*S. neglecta*,
" *arguta*,	" *nemoralis*,
" *bicolor*,	" *odora*,
" *Canadensis*,	" *puberula*,
" *lanceolata*,	" *sempervirens*,
" *latifolia*,	" *serotina*.

September 8th, the exhibit of Double Zinnias was much larger than for several years, seven collections competing for the prizes. The first was awarded to Mrs. William Latham, the second to Hovey & Co., and the third to H. B. Watts.

Dianthus were also more extensively shown, and in finer assortments of colors; there were five competitors in this class, the first prize being given to E. Sheppard, the second to Mrs. Austin W. Ward, and the third to H. B. Watts.

September 20, President Hayes exhibited a single bloom of the new rose, White Baroness; color pure white, form like that of its parent, Baroness Rothschild.

The prizes for Herbaceous Plants have not attracted as much competitive interest as was hoped. Mrs. L. P. Weston has been the only continuous exhibitor through the season; her contributions have been excellent, instructive, and carefully named; lists of the varieties were furnished the Committee from week to week, and to her was awarded a Silver Medal for the greatest number of first prizes during the season, for Herbaceous Plants.

Prizes have been awarded from the Hunnewell fund to the amount of $70.00. The special appropriation of $100.00 for winter exhibits has all been awarded.

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The amount of money prizes and gratuities awarded is $1,499, out of the appropriation of $1,500.

All of which is respectfully submitted.

WM. H. SPOONER,
JOS. H. WOODFORD,
JAMES CARTWRIGHT,
DAVID ALLAN,
F. L. HARRIS,
E. L. BEARD,
} *Committee on Plants and Flowers.*

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PRIZES AND GRATUITIES AWARDED FOR PLANTS AND FLOWERS.

January 6.

Gratuities :—

Mrs. C. N. S. Horner, Cut Flowers,	$1 00
Mrs. E. M. Gill, " "	1 00
Miss S. W. Story, " "	1 00

January 13.

Gratuities :—

Francis B. Hayes, Camellias,	1 00
Mrs. E. M. Gill, Cut Flowers,	1 00

January 20.

Gratuities :—

Francis B. Hayes, Camellias,	3 00
Miss S. W. Story, Cut Flowers,	1 00
Mrs. E. M. Gill, " "	1 00

January 27.

Gratuities :—

James Cartwright, *Cypripedium insigne*,	2 00
Francis B. Hayes, Camellias,	1 00
Mrs. E. M. Gill, Cut Flowers,	1 00

February 3.

Gratuities :—

Francis B. Hayes, Camellias,	2 00
Jackson Dawson, Gen. Jacqueminot Roses,	1 00

February 10.

Gratuities :—

Francis B. Hayes, Camellias,	2 00
Miss S. W. Story, Cut Flowers,	1 00
Mrs. A. D. Wood, " "	1 00

February 17.

Gratuities :—

H. H. Hunnewell, Cut Orchids,	10 00
William C. Strong, Gen. Jacqueminot Roses,	2 00
Jackson Dawson, English Primulas,	2 00
Hovey & Co., Camellias,	2 00
Mrs. E. M. Gill, Cut Flowers,	1 00
Miss S. W. Story, " "	1 00

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FEBRUARY 24.

Gratuities :—

Francis B. Hayes,	Camellias,	$2 00
Hovey & Co.,	"	2 00
William C. Strong,	Hybrid Perpetual Roses,	1 00
W. K. Wood,	*Freesia refracta alba odorata*,	1 00
John L. Gardner,	Violets in pots,	1 00
Mrs. E. M. Gill,	Cut Flowers,	1 00
Miss S. W. Story,	" "	1 00

MARCH 8.

Gratuities :—

Edward L. Beard,	Hyacinths, Lily of the Valley, etc.,	4 00
James Cartwright,	Cyclamen,	2 00
Francis B. Hayes,	Camellias,	3 00
Hovey & Co.,	"	2 00
John L. Gardner,	Marie Louise Violets,	1 00
John B. Moore & Son,	Hybrid Perpetual Roses,	1 00
William C. Strong,	" " "	1 00
Mrs. E. M. Gill,	Cut Flowers,	1 00
Miss S. W. Story,	" "	1 00

MARCH 10.

Gratuities :—

Francis B. Hayes,	Camellias, Roses, etc.,	4 00
Hovey & Co.,	Camellias,	2 00
" "	*Andromeda Japonica*,	1 00
Edward L. Beard,	Hyacinths and Tulips,	3 00
William C. Strong,	Hybrid Perpetual Roses,	2 00
Benjamin G. Smith,	Gloxinias and Begonias,	1 00
" "	" Seedling Abutilon,	1 00
Miss S. W. Story,	Cut Flowers,	1 00
Mrs. E. M. Gill,	" "	1 00

MARCH 17.

Gratuities :—

William C. Strong,	Hybrid Perpetual Roses,	2 00
Francis B Hayes,	Camellias and Roses,	2 00
Miss S. W. Story,	Cut Flowers,	1 00

AZALEA AND ROSE SHOW.

MARCH 22.

INDIAN AZALEAS.—	Six named varieties, in pots, Marshall P. Wilder,	$12 00
Two named	varieties, in pots, Marshall P. Wilder,	8 00
Specimen	plant, named, in pot, John L. Gardner,	5 00

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INDIAN AZALEAS. — Four named varieties, in not exceeding ten-inch pots, Marshall P. Wilder,	$8 00
Second, Marshall P. Wilder,	6 00
Single plant, of any named variety, in not exceeding an eight-inch pot, Marshall P. Wilder.	3 00
Second, Marshall P. Wilder,	2 00
HYBRID PERPETUAL ROSES.—Three plants, in not over eight-inch pots, distinct named varieties, Francis B. Hayes,	6 00
Second, John B. Moore & Son,	5 00
Twelve cut blooms, of six distinct named varieties, two of each, John B. Moore & Son,	6 00
Second, William C. Strong,	4 00
Six blooms, of four distinct named varieties, John B. Moore & Son.	3 00
Second, John B. Moore & Son,	2 00
Single bloom, of any named variety, Francis B. Hayes, Baroness Rothschild,	1 00
TENDER ROSES.—Twelve blooms of Maréchal Niel, E. M. Wood & Co.,	3 00
ORCHIDS.—Three plants, in bloom, H. H. Hunnewell,	8 00
Single plant in bloom, H. H. Hunnewell, *Odontoglossum Insleayi*,	3 00
Second, Francis B. Hayes, *Dendrobium nobile*,	2 00
GREENHOUSE PLANTS.—Specimen, in bloom, other than Azalea or Orchid, named, H. H. Hunnewell, *Chorozema varia*,	5 00
Second, John L. Gardner, *Imantophyllum miniatum*,	4 00
HEATH.—Single plant, in bloom, Francis B. Hayes,	3 00
Second, John L. Gardner,	2 00
PRIMULAS.—Three plants, Single Flowered, of distinct varieties, in bloom, John L. Gardner,	2 00
CINERARIAS.—Four varieties, in not over nine-inch pots, in bloom, William Patterson,	4 00
Single plant, in bloom, William Patterson,	2 00
VIOLETS.—Six plants, in bloom, William Patterson,	2 00
Second, John L. Gardner,	1 00
HYACINTHS.—Twelve distinct named varieties, in pots, one in each pot, John L. Gardner,	5 00
Six bulbs, in pots, distinct named varieties, one in each pot, John L. Gardner,	4 00
Single named bulb, in pot, in bloom, John L. Gardner,	2 00
NARCISSUS.—Four six-inch pots, two bulbs in each, in bloom, John L. Gardner,	3 00
JONQUILS.—Four six-inch pots, six bulbs in each, in bloom, John L. Gardner,	3 00
CAMELLIAS.—Display of named varieties, cut flowers with foliage, not less than twenty blooms, Francis B. Hayes,	4 00
Second, Hovey & Co.,	3 00
Six cut blooms, of six named varieties, with foliage, Hovey & Co.,	3 00
Second, Francis B. Hayes,	2 00

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CUT FLOWERS.—Display, filling fifty bottles, W. K Wood,	$3 00
Second, Miss S. W. Story,	2 00
HAND BOUQUETS.—Pair, Hovey & Co.,	3 00
Second, James Nugent,	2 00
BASKET OF FLOWERS.—Best arranged, Mrs. E. M. Gill,	4 00

Gratuities:—

Marshall P. Wilder, Collection of Azaleas,	12 00
E. M. Wood & Co., Cut Roses,	10 00
John L. Gardner, Hybrid Perpetual Roses,	1 00
" " " Polyanthus and Epacris,	3 00
Francis B. Hayes, Collection of Plants,	10 00
D. Zirngiebel, Pansies,	1 00
E. Sheppard, "	1 00
Henry R. Comley, Carnations and Bouvardias,	2 00
H. H. Hunnewell, *Chorozema Henchmanni*,	2 00
Benjamin G. Smith, Gloxinias,	1 00
Edwin Fewkes, Cut Flowers,	2 00
James Nugent, " "	1 00

MARCH 31.

Gratuities:—

F. L. Ames, Orchids,	12 00
John B. Moore & Son, Hybrid Perpetual Roses,	2 00
William C. Strong, " " "	1 00
Hovey & Co., Camellias, etc.,	2 00
Francis B. Hayes, Cut Flowers,	3 00
Mrs. A. D. Wood, " "	1 00
Miss S. W. Story, " "	1 00
Miss E. M. Gill, " "	1 00

APRIL 7.

Gratuities:—

John B. Moore & Son, Hybrid Perpetual Roses,	2 00
Hovey & Co., Camellias,	2 00
Edwin Fewkes, New Heliotropes,	2 00
Marshall P. Wilder, Azaleas,	2 00
John L. Gardner, *Anthurium Scherzerianum* and *Dendrobium chrysotoxum*,	2 00
E. Sheppard, Rhododendrons and Pelargoniums,	1 00
Francis B. Hayes, Cut Flowers,	3 00
Miss E. M. Gill, " "	1 00
Miss S. W. Story, " "	1 00

APRIL 14.

Gratuities:—

E. Sheppard, *Dendrobium Devonianum thyrsiflorum*,	3 00
Francis B. Hayes, *Franciscea eximia*, Azaleas, and other flowers,	3 00

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Woolson & Co., Passaic, N. J., *Primula Sieboldii* in variety, Narcissus, and Chionodoxa, ... $2 00
Hovey & Co., Camellias, ... 2 00
Edward L. Beard, Pansies, Anemone, and Polyanthus, . . . 1 00
Miss S. W. Story, Cut Flowers, ... 1 00
Mrs. A. D. Wood, " " 1 00
Mrs. E. M. Gill, " " 1 00

APRIL 21.

Gratuities:—

Edward L. Beard, Lily of the Valley, in pots, ... 2 00
E. Sheppard, Pelargoniums and Azaleas, ... 1 00
Joseph Tailby, *Cypripedium villosum*, ... 1 00
Marshall P. Wilder, Azalea Mme. Charles Van Eckhaute, . . 1 00
Mrs. L. P. Weston, Cut Flowers, ... 1 00
Mrs. E. M. Gill, " " 1 00
Miss S. W. Story, " " 1 00
Mrs. A. D. Wood, " " 1 00

APRIL 28.

Gratuities:—

Edward L. Beard, Pansies, ... 1 00
Mrs. A. D. Wood, Cut Flowers, ... 1 00

MAY 5.

Gratuities:—

Francis B. Hayes, *Erica speciosa*, ... 1 00
" " Cut Flowers, ... 1 00
Mrs. E. M. Gill, " " 1 00
Miss S. W. Story, " " 1 00
W. H. Badlam, " " 1 00

PELARGONIUM EXHIBITION.

MAY 12.

INDIAN AZALEAS. — Single plant in pot, named, John L. Gardner, . $6 00
Second, Marshall P. Wilder, ... 5 00
Third, " " 4 00
TULIPS. — Twenty-four blooms, distinct named varieties, John L. Gardner, ... 4 00
Second, John L. Gardner, ... 3 00
HYACINTHS. — Twenty of different colors, Miss E. M. Harris, . . 5 00
TABLE DESIGN, other than a Basket of Flowers, Mrs. E. M. Gill, . 4 00
Second, Miss S. W. Story, ... 3 00
HERBACEOUS PLANTS.—Largest and best arranged collection, correctly named, J. W. Manning, ... 2 00

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Gratuities:—

William A. Bock, Pelargoniums,	$2 00
E. Sheppard, "	2 00
" " Fancy "	1 00
Dr. H. C. Meriam, *Caltha palustris fl. pl.*, and Pansies,	1 00
W. H. Badlam, Primulas and Anemones,	1 00
Miss L. P. Weston, Cut Flowers,	1 00
Mrs. A. D. Wood, " "	1 00

MAY 19.

Gratuities:—

Marshall P. Wilder, Azaleas,	2 00
E. Sheppard, *Cattleya Mossiæ*,	2 00
John C. Hovey, Narcissus,	2 00
Miss Anna C. Kenrick, Magnolias,	1 00
Miss S. W. Story, Cut Flowers,	1 00
Mrs. E. M. Gill, " "	1 00

MAY 26.

Gratuities:—

Hovey & Co., Plants and Flowers,	2 00
S. L. Beard, Primulas, Ranunculus, and Anemones,	1 00
Mrs. E. S. Joyce, Cut Flowers,	1 00
Mrs. E. M. Gill, " "	1 00
E. H. Hitchings, Native Flowers,	1 00
Miss S. W. Story, Cut Flowers,	1 00

RHODODENDRON SHOW.

JUNE 9.

TREE PÆONIES.—Six named varieties, Marshall P. Wilder,	$3 00
GERMAN IRIS.—Twelve distinct varieties, Francis B. Hayes,	3 00
CUT FLOWERS.—Display, filling 100 bottles, W. K. Wood,	4 00
Second, Mrs. E. M. Gill,	3 00
Third, Miss S. W. Story,	2 00
NATIVE PLANTS.—Display of named species and varieties, one bottle each, E. H. Hitchings,	3 00
CLEMATIS.—Early named varieties, display of cut blooms, Joseph H. Woodford,	3 00
Second, John B. Moore & Son,	2 00
TABLE DESIGN, other than a basket of flowers, Miss S. W. Story,	4 00
Second, Mrs. E. M. Gill,	3 00

Gratuities:—

H. H. Hunnewell, Rhododendrons and Azaleas,	10 00
Francis B. Hayes, "	3 00
Hovey & Co., " and Azaleas,	3 00

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Francis Parkman, Seedling Ghent Azaleas,	$1 00
Benjamin G. Smith, Rhododendrons, Azaleas, and Clematis,	1 00
Jackson Dawson, Seedling "	2 00
" " Rare Shrubs,	2 00
James Cartwright, *Lælia purpurata*,	2 00

JUNE 13.

Postponement of Award of Hunnewell Prizes.

RHODODENDRONS.—Twenty-five tender varieties, named, Francis B. Hayes,	10 00
Twelve tender varieties, named, Francis B. Hayes,	6 00
Second, " " "	4 00
Six tender varieties, named, " " "	3 00
Three tender varieties, named. " " "	2 00
Single truss of any tender variety, named, Francis B. Hayes, for Duchess of Bedford,	1 00
Eighteen hardy varieties, named, John L. Gardner,	10 00
Second, Hovey & Co.,	6 00
Ten hardy varieties, named, Francis B. Hayes,	6 00
HARDY AZALEAS.—Any or all classes, fifteen named varieties, one truss each, E. Sheppard,	8 00

Gratuities:—

H. H. Hunnewell, Rhododendrons and Azaleas,	3 00
Francis B. Hayes, "	6 00
" " " *Erica ampullacea Barnsii*,	2 00
Hovey & Co,, Pæonies and Rhododendrons,	4 00
E. Sheppard, Azaleas and "	1 00
John B. Moore & Son, Clematis and Pæonies,	1 00
George Craft, Cut Flowers,	1 00

JUNE 16.

Gratuities:—

Francis B. Hayes, Rhododendrons, Roses, and Clematis,	3 00
William H. Spooner, Hybrid Perpetual Roses,	2 00
Benjamin G. Smith, " " "	1 00
Miss S. W. Story, Cut Flowers,	1 00
Mrs. E. M. Gill, " "	1 00

ROSE AND STRAWBERRY EXHIBITION.

JUNE 26.

Special Subscription Prizes.

HYBRID PERPETUAL ROSES.—Twenty-four Roses, of different varieties, named, John L. Gardner, Silver Vase, value,	$50 00

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Three Roses of different varieties, named, Warren Heustis, Silver Vase, value,	$15 00
Six Roses of different varieties, named, John S. Richards, Silver Vase, value,	25 00
Three Roses of one variety, John L. Gardner, for Abel Carrière, Silver Vase, value,	15 00
Six Roses of one variety, Francis Skinner, Jr., for Charles Lefebvre, Silver Vase, value,	25 00
Twenty-four varieties, three specimens of each, to John B. Moore & Son, to be held for three consecutive years, this being the second year of the award, Silver Challenge Vase, value,	200 00

Society's Special Prizes.

HYBRID PERPETUAL ROSES.—Six blooms of Alfred Colomb, John B. Moore & Son,	4 00
Six blooms of Baroness Rothschild, Francis B. Hayes,	4 00
Six blooms of Mme. Gabriel Luizet, John L. Gardner	4 00
Six blooms of Mme. Victor Verdier, John B. Moore & Son,	4 00
Six blooms of Mons. Boncenne, Francis B Hayes,	4 00

Regular Prizes.

HYBRID PERPETUAL ROSES.—Twenty-four distinct named varieties, two of each variety, John B. Moore & Son,	12 00
Second, Warren Heustis,	10 00
Twelve distinct named varieties, John S. Richards,	8 00
Second, John L. Gardner,	6 00
Third, Benjamin G. Smith,	4 00
Six distinct named varieties, John S. Richards,	4 00
Second, Francis B. Hayes,	3 00
Third, John L. Gardner,	2 00
MOSS ROSES.—Six named varieties, three clusters of each, John B. Moore & Son,	4 00
Three named varieties, three clusters of each, William H. Spooner,	3 00
Second, John B. Moore & Son,	2 00
TEA AND BOURBON ROSES.—Twelve cut blooms, named, Mrs. E. M. Gill,	3 00
GENERAL DISPLAY, of one hundred bottles of Hardy Roses, Norton Brothers,	7 00
Second, John S. Richards,	6 00
Third, John B. Moore & Son.	5 00
Fourth, Francis B. Hayes,	4 00
Fifth, William H. Spooner,	3 00
STOVE AND GREENHOUSE FLOWERING PLANTS, no Orchid admissible.—Six distinct named varieties, in bloom, John L. Gardner,	8 00
Second, Hovey & Co.,	6 00
SPECIMEN PLANT, in bloom, other than Orchid, named, regard being had to new and rare varieties, John L. Gardner,	4 00

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Orchids.—Three named varieties, in bloom, F. L. Ames,	$6 00
Second, Robert M. Pratt,	5 00
Single plant, H. H. Hunnewell, for *Odontoglossum vexillarium*,	3 00
Sweet Williams.—Thirty trusses, not less than six distinct varieties, E. Sheppard,	3 00
Second, Hovey & Co.,	2 00
Vase of Flowers.—Best arranged, in one of the Society's glass vases, Mrs. E. M. Gill,	4 00
Second, Miss S. W. Story,	3 00
Herbaceous Plants.—Collection, Mrs. L. P. Weston,	2 00

Gratuities:—

F. L. Ames, Orchids,	10 00
" " *Ixora Williamsii*,	2 00
Robert M. Pratt, Plants and Cut Flowers,	5 00
John C. Hovey, Herbaceous Pæonies,	3 00
Francis B. Hayes, *Yucca variegata*,	2 00
" " " Clematis,	1 00
A. P. Calder, *Nymphea* var.,	1 00
C. J. Power, Collection of Plants, grown in moss,	2 00
J. W. Manning, Evergreens,	2 00
E. Sheppard, Cut Flowers,	2 00
Mrs. L. P. Weston, " "	2 00
Miss S. W. Story, " "	2 00
Mrs. E. M. Gill, " "	2 00
E. H. Hitchings, *Kalmia latifolia*,	1 00
Frank H. Forbes, Wild Roses,	1 00

June 30.

Gratuities:—

Hovey & Co., Rhododendrons,	2 00
Jackson Dawson, Shrubs,	1 00
Miss S. W. Story, Cut Flowers,	1 00
Mrs. E. M. Gill, " "	1 00

July 7.

Hybrid Perpetual Roses.—Twenty-four blooms, of twenty-four distinct named varieties, in vases, John B. Moore & Son,	4 00
Second, William H. Spooner,	3 00
Delphiniums.—Six named varieties, Benjamin G. Smith,	3 00
Second, E. Sheppard,	2 00
Cut Flowers.—Display, filling one hundred bottles, W. K. Wood,	4 00
Second, Mrs. E. M. Gill,	3 00
Third, Mrs. L. P. Weston,	2 00
Table Design.—Best arranged, Mrs. E. M. Gill,	3 00
Herbaceous Plants.—Collection, Mrs. L. P. Weston,	2 00

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Gratuities:—

Benjamin G. Smith, Delphiniums,	$1 00
Miss E. M. Harris, Lilies,	1 00
James Nugent, Sweet Peas,	1 00
Miss S. W. Story, Cut Flowers,	2 00
Hovey & Co., " "	2 00
E. H. Hitchings, Wild "	2 00

JULY 14.

GLOXINIAS.—Six distinct varieties, in pots, Edward L. Beard,	5 00
VASE OF FLOWERS.—Best arranged, in one of the Society's glass vases, W. K. Wood,	3 00
Second, Miss S. W. Story,	2 00
HERBACEOUS PLANTS.—Collection, Mrs. L. P. Weston,	2 00
Second, A. McLaren,	1 00

Gratuities:—

Miss E. M. Harris, Hollyhocks,	2 00
E. L. Beard, Dahlias and Gloxinias,	2 00
Edwin Fewkes, Iris, Dahlias, etc,	1 00
John L. Gardner, *Erica juliana*,	2 00
John Robinson, *Tamarix Chinensis*,	1 00
Mrs L. P. Weston, *Asclepias tuberosa*,	1 00
James Nugent, *Lilium longiflorum*,	1 00
Miss S. W. Story, Cut Flowers,	1 00
Mrs. L. P. Weston, " "	2 00
Mrs. E. M. Gill, " "	1 00
Mrs. A. D. Wood, Basket of Flowers,	1 00
Mrs. A. J. Dolbear, Native Flowers,	2 00

JULY 21.

HOLLYHOCKS.—Twelve blooms, of twelve distinct colors, E. Sheppard,	4 00
Second, John L. Gardner,	3 00
Six blooms, of six distinct colors, Miss E. M. Harris,	2 00
Three blooms, of three distinct colors, Mrs. E. M. Gill,	1 00
CUT FLOWERS. — Display, filling one hundred bottles, W. K. Wood,	4 00
Second, Mrs. E. M. Gill,	3 00
Third, Mrs. L. P. Weston,	2 00
HERBACEOUS PLANTS.—Collection, Mrs. L. P. Weston,	2 00

Gratuities:—

Jonas H. French, Orchids,	3 00
Hovey & Co., *Lilium Batemanni* and *L. Hoveyii*,	1 00
Miss E. M. Harris, Hollyhocks,	2 00
Mrs. E. M. Gill "	1 00
E. Sheppard, Phloxes,	1 00
James Nugent, Cut Flowers,	2 00
Miss S. W. Story, " "	2 00

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JULY 28.

HYDRANGEAS.—Three plants of different varieties, in pots, the second prize to C. H. Hovey,	$3 00
PELARGONIUMS. — Six double and single varieties, named, the second prize to Mrs. E. M. Gill,	1 00
PERENNIAL PHLOXES.—Six distinct named varieties, one spike each, E. Sheppard,	3 00
SWEET PEAS.—Display, filling twenty-five bottles, James Nugent,	3 00
HERBACEOUS PLANTS. — Collection, Mrs. L. P. Weston,	2 00

Gratuities:—

E. Sheppard, Phloxes and Hollyhocks,	2 00
Hovey & Co., Hydrangeas,	2 00
E. L. Beard, Tuberous Rooted Begonias,	1 00
Francis B. Hayes, Cut Flowers,	3 00
Mrs. L. P. Weston, " "	2 00
Mrs. E. M. Gill, " "	2 00
Miss S. W. Story, " "	2 00
Hovey & Co., " "	1 00
Mrs. A. D. Wood, Basket of Flowers,	1 00
W. K. Wood, Vase of Flowers,	1 00
Mrs. P. D. Richards, Native Plants,	1 00

AUGUST 4.

HYBRID PERPETUAL ROSES.—Twelve blooms, of twelve distinct named kinds, John B. Moore & Son,	3 00
Second, John B. Moore & Son,	2 00
STOCKS.—Six varieties, one cut plant of each, William Patterson,	2 00
BALSAMS.—Twelve spikes, not less than eight varieties, E. Sheppard,	2 00
CUT FLOWERS.—Display filling one hundred bottles, Francis B. Hayes,	4 00
Second, W. K. Wood,	3 00
Third, Mrs. E. M. Gill,	2 00
VASE OF FLOWERS.—The second prize to Mrs. A. D. Wood,	1 00
NATIVE FERNS.—Display, Mrs. P. D. Richards,	3 00
HERBACEOUS PLANTS.—Collection, Mrs. L. P. Weston,	2 00

Gratuities:—

John B. Moore & Son, Hybrid Perpetual Roses,	1 00
Francis B. Hayes, Petunias,	1 00
E. Sheppard, Dianthus and Dahlias,	1 00
Miss S. W. Story, Cut Flowers,	1 00
Edwin Fewkes, " "	1 00

AUGUST 11.

PERENNIAL PHLOXES.—Ten distinct named varieties, one spike each, John B. Moore & Son,	3 00
Second, E. Sheppard,	2 00

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PETUNIAS.—Collection, filling thirty bottles, one spray in each, Francis B. Hayes,	$3 00
Second, James Nugent,	2 00
Third, Mrs. E. M. Gill,	1 00
CUT FLOWERS.—Display, filling one hundred bottles, Francis B. Hayes,	4 00
Second, Mrs. E. M. Gill,	3 00
Third, W. K. Wood,	2 00
NATIVE FLOWERS.—Collection, Mrs. A. J. Dolbear,	3 00
Second, E. H. Hitchings,	2 00
HERBACEOUS PLANTS.—Collection, Mrs. L. P. Weston,	2 00
Gratuities:—	
Francis B. Hayes, Roses, Asters, etc.,	2 00
E. Sheppard, Phlox, Hollyhocks, and Petunias,	2 00
Joseph G. Coolidge, Petunias,	1 00
Mrs. L. P. Weston, Cut Flowers,	2 00
Mrs. E. S. Joyce, " "	1 00
Miss S. W. Story, " "	1 00
Mrs. H. D. Wilmarth, *Sabbatia chloroides*,	1 00

AUGUST 18.

GLADIOLI.—Twenty named varieties, in spikes, Mrs. T. L. Nelson,	8 00
Second, O. B. Hadwen,	6 00
Ten named varieties, in spikes, F. Bacheller,	4 00
Six named varieties, in spikes, F. Bacheller,	3 00
Second, Mrs. T. L. Nelson,	2 00
Single spike, named, O. B. Hadwen, for Baroness Burdett-Coutts,	1 00
Display of named and unnamed varieties, filling one hundred bottles, James Cartwright,	6 00
CUT FLOWERS.—Collection, of not less than twenty-five named species of Annuals, Mrs. E. M. Gill,	3 00
PHLOX DRUMMONDI.—Fifty bottles, not less than six varieties, Mrs. T. L. Nelson,	2 00
Second, James Nugent,	1 00
HERBACEOUS PLANTS.—Collection, Mrs. L. P. Weston,	2 00
Gratuities:—	
C. L. Allen & Co., Queens, N. Y., Seedling Gladioli,	2 00
James F. C. Hyde, Hyde's White Gladiolus,	1 00
Francis B. Hayes, Roses, Dahlias, etc.,	3 00
Edwin Fewkes, Roses, etc.,	2 00
Warren Heustis, Hybrid Perpetual Roses,	1 00
E. Sheppard, Dahlias,	1 00
Daniel Duffley, Helianthus,	1 00
John C. Hovey, *Clematis Davidsoni*,	1 00
Mrs. L. P. Weston, Cut Flowers,	2 00

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Mrs. E. M. Gill, Cut Flowers,	$1 00
Miss S. W. Story, " "	1 00
W. K. Wood, Display of "	1 00
John Parker, " " "	1 00

AUGUST 25.

ASTERS.—Large Flowered, thirty blooms, not less than ten varieties, E. Sheppard,	4 00
Second, Francis B. Hayes,	3 00
Third, M. B. Faxon,	2 00
Victoria, or Rose Flowered, thirty blooms, not less than eight varieties, John L. Gardner,	4 00
Second, James Nugent,	3 00
Third, Mrs. E. M. Gill,	2 00
Pompons, thirty sprays, not less than six varieties, one spray in each bottle, Francis B. Hayes,	3 00
BASKET OF FLOWERS.—Best arranged, Mrs. E. S. Joyce,	2 00
HERBACEOUS PLANTS.—Collection, Mrs. L. P. Weston,	2 00

Gratuities:—

Mrs. E. M. Gill, Asters and Gladioli,	2 00
Mrs. L. P. Weston, Asters,	1 00
E. Sheppard, "	1 00
Francis B. Hayes, Cut Flowers,	3 00
Mrs. L. P. Weston, " "	2 00
Miss S. W. Story, " "	1 00
John Parker, " "	1 00

SEPTEMBER 1.

TROPÆOLUMS.—Display, filling twenty-five bottles, the second prize to Adin A. Hixon,	2 00
MARIGOLDS.—Display, filling twenty-five bottles, three flowers in each, Adin A. Hixon,	3 00
Second, Mrs. E. M. Gill,	2 00
Third, Francis B. Hayes,	1 00
CUT FLOWERS.—Display, filling one hundred bottles, Francis B. Hayes,	4 00
Second, Mrs. E. M. Gill,	3 00
Third, Mrs. L. P. Weston,	2 00
HERBACEOUS PLANTS.—Collection, Mrs. L. P. Weston,	2 00

Gratuities:—

E. Sheppard, Dahlias, Petunias, and Phloxes,	2 00
Francis B. Hayes, Dahlias and Hydrangeas,	1 00
Adin A. Hixon, Asters and Petunias,	1 00
Joseph Comley, Seedling Pelargoniums,	1 00
Miss Sarah W. Story, Cut Flowers,	1 00

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John Parker, Cut Flowers, ... $1 00
E. H. Hitchings, Native Flowers, ... 2 00
Mrs. P. D. Richards, twelve species of Golden Rod, ... 1 00

SEPTEMBER 8.

HYBRID PERPETUAL ROSES.—Twelve blooms, of twelve named varieties, in vases, John B. Moore & Son, ... 3 00
DOUBLE ZINNIAS.—Twenty-five flowers, not less than six varieties, Mrs. William Latham, ... 3 00
Second, Hovey & Co., ... 2 00
Third, H. B. Watts, ... 1 00
DIANTHUS, Annual and Biennial varieties.—Fifty bottles, single trusses, E. Sheppard, ... 3 00
Second, Mrs. Austin W. Ward, ... 2 00
Third, H. B. Watts, ... 1 00
HERBACEOUS PLANTS.—Collection, Mrs. L. P. Weston, ... 2 00

Gratuities :—

Francis B. Hayes, Roses and Dahlias, ... 2 00
Mrs. Austin W. Ward, Dianthus and Sweet Peas, ... 1 00
Edwin A. Bixon, Pelargoniums, ... 1 00
Mrs. L. P. Weston, Cut Flowers, ... 1 00
" " " Asters, ... 2 00
Mr. E. M. Gill, " 1 00
S. W. Story, " 1 00

ANNUAL EXHIBITION.

SEPTEMBER 18, 19, 20, AND 21.

Hunnewell Premiums.

EVERGREEN TREES AND SHRUBS.—Display in pots, of other than Native Evergreens of New England, William C. Strong, . $8 00
Second, Hovey & Co., ... 6 00

Special Prize, offered by Samuel Smith, of Newport, R. I.

SINGLE DAHLIAS.—Twenty-five bottles, one spray each, not less than twelve varieties, Edwin Sheppard, a Piece of Plate of the value of 12 00

Society's Prizes.

GREENHOUSE PLANTS.—Twelve Greenhouse and Stove Plants, of different varieties, one Dracæna and one Croton admissible, F. L. Ames, ... 30 00
Second, Samuel R. Payson, ... 25 00
Third, Hovey & Co., ... 20 00

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SPECIMEN FLOWERING PLANTS.—Six named varieties in bloom, Francis B. Hayes,	$10 00
Second, John L. Gardner,	8 00
Single named specimen, F. L. Ames, for *Dipladenia Boliviensis*,	5 00
Second, F. L. Ames, for *Epidendrum prismatocarpum*,	3 00
VARIEGATED LEAVED PLANTS.—Six named varieties, not offered in a collection of Greenhouse Plants; Crotons and Dracænas not admissible, Hovey & Co.,	12 00
Single specimen, named, not offered in any collection, John L. Gardner, for *Eurya latifolia var.*,	5 00
CALADIUMS.—Six named varieties, Waldo Adams,	5 00
Second, Waldo Adams,	4 00
FERNS.—Six named varieties, no Adiantums admissible, F. L. Ames,	6 00
Second, Hovey & Co.,	4 00
ADIANTUMS.—Six named varieties, F. L. Ames,	5 00
TREE FERN.—Single specimen, named, Hovey & Co., for *Alsophila australis*,	6 00
DRACÆNAS.—Six named varieties, Samuel R. Payson,	6 00
Second, Hovey & Co.,	5 00
CROTONS.—Six named varieties, in not exceeding six-inch pots, F. L. Ames,	4 00
Second, Samuel R. Payson,	3 00
PALM.—Single specimen, named, Hovey & Co., for *Pritchardia Pacifica*,	5 00
Second, F. L. Ames, for *Phenicophorum Sechellarum*,	4 00
NEPENTHES.—Three plants, F. L. Ames,	5 00
AGAVES.—Six distinct named varieties, Hovey & Co.,	5 00
Second, Francis B. Hayes,	4 00
CACTI.—Twelve named species and varieties, Hovey & Co.,	5 00
SUCCULENTS. — Collection (other than Agaves, Yuccas, or Cacti) of twelve named species and varieties, Hovey & Co.,	5 00
BEGONIAS. — Tuberous Rooted, six seedling varieties, the second prize to Hovey & Co.,	3 00
GLADIOLI.—Best display and best kept, filling one hundred bottles, E. Sheppard,	10 00
DAHLIAS.—Twelve named varieties, John L. Gardner,	5 00
Second, Francis B. Hayes,	4 00
Third, John Parker,	3 00
Six named varieties, Charles W. Hoitt, Nashua, N. H.,	3 00
Second, James Willey,	2 00
Single named flower, John L. Gardner,	2 00
Second, Charles W. Hoitt,	1 00
LILIPUTIAN DAHLIAS.—General display, James Willey,	3 00
CUT FLOWERS.—Best display, and best kept during the exhibition, filling one hundred and fifty bottles, Mrs. E. M. Gill,	16 00
Second, Mrs. L. P. Weston,	14 00
Third, Francis B. Hayes,	12 00

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BASKET OF FLOWERS.—Best arranged, and best kept through the exhibition, Mrs. E. S. Joyce, ... $5 00

TABLE DESIGN.—Best, and best kept through the exhibition, Miss S. W. Story, ... 5 00

Gratuities:—

Francis B. Hayes, Plants, ... 5 00
Hovey & Co., " 5 00
Samuel R. Payson, Ferns and Crotons, ... 8 00
John B. Moore & Son, Hybrid Perpetual Roses, ... 3 00
F. L. Beard, Tuberous Rooted Begonias, ... 2 00
P. G. Hanson, Celosias, ... 1 00
W. C. Strong, Foliage of Trees and Shrubs, ... 2 00
John L. Gardner, Seedling Gloxinias, ... 2 00
William H. Spooner, Double Stocks, ... 2 00
A. A. Hixon, Petunias, ... 1 00
J. W. Manning, Helianthus, fl. pl., ... 1 00
F. & C. Woodman, New Coleus Progress, ... 1 00
John Parker, Dahlias, ... 2 00
E. Sheppard, " 1 00
" D. Sturtevant, *Nelumbium speciosum*, ... 5 00
" " *Victoria regia*, ... 5 00
" " Nymphæas, in variety, ... 15 00
Hovey & Co., Flowers of Nymphæas, ... 2 00
Benjamin Gray, " 1 00
F. L. Ames, Cut Flowers, ... 3 00
A. A. Hixon, " " 2 00
Miss E. H. Craft, " " 2 00
Mrs. P. D. Richards, Native Flowers, ... 2 00
E. H. Hitchings, " " 2 00
Carrie S. Leeds, " " 1 00
Frank H. Forbes, Bouquet of Native Flowers, ... 1 00
Mrs. G. R. Peckham, " " " " 1 00
Annie M. Tilley, Design of Dried Flowers, ... 1 00

OCTOBER 6.

Gratuity:—

John L. Gardner, Dahlias, ... 3 00

OCTOBER 20.

Gratuities:—

John L. Gardner, *Erica hyemalis*, ... 2 00
" " " *Dendrobium chrysanthum*, ... 2 00
Hovey & Co., Nymphæas, ... 1 00

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CHRYSANTHEMUM SHOW.

NOVEMBER 8 AND 9.

CHRYSANTHEMUMS.—Six Large Flowered, or Chinese, H. P. Walcott,	$8 00
Second, E. W. Wood,	6 00
Six Japanese, H. P. Walcott,	8 00
Second, E. W. Wood,	6 00
Four Pompons, H. P. Walcott,	4 00
Second, E. W. Wood,	3 00
Specimen Plant, Large Flowered, or Chinese, H. P. Walcott,	4 00
Second, E. W. Wood,	3 00
Specimen Plant, Japanese, H. P. Walcott,	4 00
Second, E. W. Wood,	3 00
Specimen Plant, Pompon, E. W. Wood,	3 00
Second, H. P. Walcott,	2 00
Display of named plants, in pots, all classes, not less than ten varieties, H. P. Walcott,	15 00
Second, E. W. Wood,	12 00
Third, Norton Brothers,	8 00
Twelve cut blooms, Large Flowered, or Chinese, Edwin Fewkes,	4 00
Second, H. P. Walcott,	3 00
Third, State Lunatic Hospital, Worcester,	2 00
Six cut blooms, Large Flowered, or Chinese, Edwin Fewkes,	3 00
Second, H. P. Walcott,	2 00
Third, E. W. Wood,	1 00
Display of thirty distinct named varieties of Pompons and Japanese, cut blooms, H. P. Walcott,	6 00
Second, Edwin Fewkes,	5 00
Third, E. W. Wood,	4 00
Fourth, State Lunatic Hospital, Worcester,	3 00
ORCHIDS.—Three varieties, in bloom, F. L. Ames,	8 00
Second, E. W. Gilmore,	6 00
Single Plant, in bloom, F. L. Ames,	4 00
Second, E. W. Gilmore,	3 00

Gratuities:—

John L. Gardner, Chrysanthemum Plants,	8 00
Marshall P. Wilder, " "	6 00
Hovey & Co., " "	6 00
Mrs. E. M. Gill, Cut Chrysanthemums,	3 00
Edwin Fewkes, " "	2 00
Mrs. L. P. Weston, "	2 00
V. H. Hallock, Son & Thorpe, Queens, N. Y., Cut Chrysanthemums,	1 00
E. Sheppard, Chrysanthemums and Pelargoniums,	2 00
Francis B. Hayes, Epacris Plants,	2 00

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T. W. Dee, *Fittonia argyrea*,	$2 00
F. L. Ames, *Anthurium Andreanum* and Cut Flowers,	5 00
Francis B. Hayes, Cut Flowers,	2 00
Miss S. W. Story, Cut Flowers,	1 00

NOVEMBER 24.

Gratuity :—

George W. Saunders, Pansies,	1 00

DECEMBER 1.

Gratuity :—

John L. Gardner, *Cypripedium insigne*,	2 00

SILVER MEDALS.

February 17. Francis B. Hayes, Camellias and *Clianthus Dampieri*.
" 24. John L. Gardner, Double Flowered Blackberry.
Azalea and Rose Show, March 22. E. M. Wood & Co., *Lilium longiflorum eximium Harrisii*.
" " " " " " Woolson & Co., Narcissus in variety.
" " " " " " Edward L. Beard, Fancy Pansies.
March 31. F. L. Ames, Orchid Flowers.
May 29. David Allan, Gardener to R. M. Pratt, *Dendrobium thyrsiflorum*.
June 9. Hovey & Co., Cereus No. 2, C. M. Hovey.
Rose and Strawberry Show, June 26. Ellwanger & Barry, Rochester, N. Y., Collection of Hardy Roses.
" " " " " " John B. Moore & Son, Seedling Gloxinias.
July 14. Henry P. Walcott, Seedling Delphiniums.
Annual Exhibition, September 18-21. Hovey & Co., *Ficus elastica aurea*.
" " " " F. L. Ames, *Nepenthes Mastersiana*.
" " " " " " *Aralia Chabrieri*.
" " " " H. H. Hunnewell, *Cattleya aurea*.
" " " " " " Collection of Orchids.
" " " " " " Collection of Crotons and Dracænas.
" " " " " " *Osmanthus ilicifolius var.*
" " " " David Allan, Gardener to R. M. Pratt, *Polypodium plumosum*.
" " " " David Allan, Gardener to R. M. Pratt, Collection of Crotons.
" " " " David Allan, Gardener to R. M. Pratt, Collection of Ferns and Lycopods.
" " " " Edmund D. Sturtevant, Bordentown, N. J., *Nymphæa Zanzibarensis*.
Chrysanthemum Show, November 8 and 9. E. W. Wood, Seedling Chrysanthemums.

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Chrysanthemum Show, November 8 and 9. Henry P. Walcott, Seedling Chrysanthemums.
" " " " Henry P. Walcott, Seedling Chrysanthemum, Pontiac.
" " " " F. L. Ames, Orchids.
" " " " David Allan, Gardener to R. M. Pratt, Cut Flowers.
" " " " David Allan, Gardener to R. M. Pratt, *Ouviranda fenestralis.*
December 1. Mrs. L. P. Weston, Exhibits of Herbaceous Plants.

FIRST-CLASS CERTIFICATES OF MERIT.

January 20. W. C. Page, Seedling Carnation Victor.
March 10. Sewall Fisher, " " Anna Webb.
Azalea and Rose Show, March 22. Henry R. Comley, Seedling Carnation No. 1.
" " " " June 13. Hovey & Co., *Lilium Takasango.*
Rose and Strawberry Show. June 26. John C. Hovey, Herbaceous Pæony No. 3, Grandiflora.
" " " " August 11. William H. Spooner, Seedling Gladiolus No. 501.
" " " " " 18. C. L. Allen & Co., Queens, N. Y., Gladioli Martha Washington, Emma Thursby, and Bayard Taylor.
" " " " " 18. John C. Hovey, *Montbretia crocosmæflora.*
" " " " " 25. John C. Hovey, *Amaryllis Hallii.*
Chrysanthemum Show, November 8 and 9. Henry P. Walcott, Seedling Chrysanthemums.

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REPORT

OF THE

COMMITTEE ON FRUITS,

FOR THE YEAR 1883.

By E. W. WOOD, CHAIRMAN.

With the exception of Apples and Peaches, the fruit crop, the past season, has been above the average, both in quantity and quality. Considering that it was the non-fruiting year with our Apple orchards, the exhibits have been remarkably good; and this was especially noticeable with the Baldwins, which were shown at the Annual and later exhibitions in extent and quality comparing favorably with fruitful years.

The heavy body of ice remaining upon the ground almost through the entire winter injured the strawberry vines in many places, but the favorable weather after the spring opened, produced an unusually heavy crop where the vines escaped injury. The later fruits suffered from the severe drought which prevailed throughout the State, there being no rainfall after the first of July, sufficient to reach the roots of pear trees, until late in October, and the late varieties of pears, except in favorable locations, or where the vigor of the trees was sustained by irrigation, were not up to the average in size, though good in quality.

The past season has been remarkably favorable for the grape in open culture; there has been very little mildew, and the grape suffers less from long-continued heat and drought than any other fruit — in fact it requires this condition of the atmosphere to give it its highest quality.

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The prizes offered for late Apples and Pears, March 22, were all awarded.

STRAWBERRIES. — The show at the special exhibition of this fruit, June 26, compared favorably with those of previous years. The Committee have tried, by offering premiums covering a wide range of varieties, to increase the exhibition of this fruit, and at the same time to show the merits of the different varieties by comparison. No fruit shows so much change in the varieties offered from year to year, as the strawberry. Some of the best known and most popular kinds of a few years since, have not appeared upon our tables the past year. But a single dish each of the Triomphe de Gand, Hovey, and Jucunda, was shown; and of the large number of new varieties that have appeared within the past few years, but a small part seem to have established themselves so as to prove that they have come to stay; perhaps among these may be named the Sharpless, Charles Downing, and Hervey Davis.

The first prize for the best four quarts shown was again awarded for the Sharpless. The Special Prize of ten dollars offered by Hon. Marshall P. Wilder, for the best four quarts of the variety of finest form, color, and quality, was awarded to a new seedling grown by Warren Heustis, which he has named Belmont. This seems to be a promising new variety; in color and quality it resembles the Sharpless, but is much better in form.

CHERRIES. — Owing to unfavorable weather at the time of ripening, the exhibits of this fruit were not as good as usual; of the fourteen prizes offered, but nine were awarded.

CURRANTS were well represented in their season, the Versaillaise being the principal red variety shown, and the Transparent and Dana's Transparent the principal white kinds; the former taking the prize when shown in competition with the latter. This fruit is easily grown, reliable for a crop, and meets with ready sale.

RASPBERRIES were shown in more than the usual quantity. A new variety shown by C. M. Atkinson, gardener to John L. Gardner, called McLaren's Prolific, attracted special notice; the berries were of good size and color, the quality good, and the plants are said to be of vigorous growth and productive.

BLACKBERRIES.—The prizes offered for this fruit were all awarded, but the amount shown was limited. We are still waiting for a hardy variety, equal in size and quality to the Dorchester, which would very quickly increase the production of this desirable fruit.

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GOOSEBERRIES.—There are comparatively but few growers of this fruit, and the competition was limited. There being little demand for gooseberries for market, their cultivation is confined almost entirely to amateurs.

PLUMS were again shown in liberal quantity, several growers after competing in all the classes for which prizes were offered, placing eight or ten varieties on the table for exhibition. It is evident that the growers have found some means to prevent the ravages of the curculio, which threatened not many years since to exterminate the plum from our list of fruits.

PEACHES have not met the expectation which the apparent good condition of the trees in the spring promised. The competition has been limited, and while a part of the fruit shown was of good size and quality, a larger portion than usual showed that the trees from which it was picked were affected by that fatal disease, the yellows; but the peach tree is so easily and quickly grown and so profitable when productive, that the demand for trees is increasing every year.

GRAPES.—Of the forty-two prizes offered for Native Grapes during the year, forty were awarded, and among the varieties most generally grown the competition was strong, and the fruit of superior quality. The prizes of seventy-five and twenty-five dollars for Pocklington grapes at the Annual Exhibition were taken by John Charlton, of Rochester, N. Y., and Joseph S. Chase, of Malden. John B. Moore & Son made a display of their seedling, Francis B. Hayes. It seemed perfectly ripe, and in quality was unquestionably the best white grape on exhibition. John Pocklington showed two new white grapes, Nos. 1 and 2, and claimed that they were to be classed among the early varieties. As the specimens shown did not appear to be fully ripe, he stated that the season with him had not been favorable, having been unusually wet, and they had not ripened as early as usual. George A. Stone showed the Empire State, a white grape not ripe enough to judge accurately of its quality. A. J. Bigelow showed, October 6, eight bunches of Concords the average weight being twenty-one and five-eighths ounces, the three heaviest bunches averaging twenty-two and one-half ounces. The bunches were well formed, and the berries large, even, and well ripened.

FOREIGN GRAPES.—The show of this fruit was much larger than for many years. August 25, John S. Farlow showed ten varieties,

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and at the Annual Exhibition, besides competing in every class, he placed fifteen varieties upon the table for exhibition. The bunches were large and well formed, but not quite large enough to take either of the two special prizes offered for the last five years but never awarded.

PEARS.—Of the one hundred and forty-one prizes offered for pears, one hundred and thirty-eight were awarded. While the crop has not been as abundant as in some previous years, the specimens shown have been uniformly of good quality and above the average in size. No new pears of special merit have been brought to the notice of the Committee. Several dishes of the Keiffer have been shown, and although of good size, form, and color, its quality must place it among the cooking rather than the dessert pears.

APPLES.—Of the one hundred and eight prizes offered, seventy-three have been awarded, a much larger number than usual on the off or non-fruiting year. Even a slight tendency to a more even distribution, in succeeding years, of this fruit, so desirable for domestic uses, is a fact to be noted and an encouragement to further efforts in this direction.

The only new fruit entered for a Prospective Prize was the Seedling Strawberry, Banquet, by J. R. Hawkins, Mountainville, Orange County, N. Y.

The Committee have awarded in prizes and gratuities eight hundred and fifty dollars, leaving an unexpended balance of just one hundred dollars; this balance is largely from the unawarded prizes for apples and peaches.

The summing up for the year is encouraging for the growers of fruit. Fruit has suffered less than any other crop from the long continued dry weather. There has been a ready sale for all kinds at good prices; there have been no severe storms that have seriously injured fruit, and the weather has been favorable for gathering and marketing. The three most serious obstacles to fruit-growing in this State are the pear blight; the yellows among peach trees, and the codling moth. Any one who can, from study or experience, render any aid in overcoming these enemies of fruit-growers, will confer a favor not only upon cultivators, but upon every lover of fruit.

We would again acknowledge our obligation to the Pomological Society, whose action upon the recommendation of its President

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we hope will soon result in eliminating from our schedules, prize cards, and reports, the senseless prefixes to the names of many of our fruits.

E. W. Wood,
P. B. Hovey,
Benjamin G. Smith,
Warren Fenno,
Jacob W. Manning,
Charles F. Curtis,
} *Committee.*

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PRIZES AND GRATUITIES AWARDED FOR FRUITS.

March 22.

Winter Apples.—Any variety, C. Terry, Northern Spy, . . $3 00
Second, John B. Moore & Son, " " . . 2 00
Winter Pears.—Any variety, Warren Fenno, Josephine of Malines, 3 00
Second, B. G. Smith, Duchess of Bordeaux, ... 2 00

Gratuities:—

A. S. McIntosh, Collection of Apples and Pears, ... 2 00
Robert Manning, Lady Apples, ... 1 00
Edward Sumner, Lemons, ... 1 00

March 31.

Gratuity:—

J. W. Talbot, Apples and Pears, ... 1 00

April 14.

Gratuities:—

C. E. Grant, Apples and Pears, ... 1 00
Francis B. Hayes, Strawberries, ... 2 00

April 21.

Gratuity:—

William H. Hunt, Hunt Apples, ... 1 00

June 9.

Gratuity:—

C. E. Grant, Apples and Pears, ... 1 00

June 16.

Gratuity:

William Doran & Son, Strawberries, ... 1 00

ROSE AND STRAWBERRY SHOW.

June 26.

Special Prize offered by Hon. Marshall P. Wilder.

Strawberries.—For the best four quarts of the variety of finest form, color, and quality, Warren Heustis, Belmont, . . $10 00

Special Prizes offered by the Society.

Strawberries.—For the best four quarts of any variety, Warren Heustis, Sharpless, Silver Cup, value, ... 20 00

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Second, Joseph D. Fitts, Providence, R. I., Jersey Queen, . $10 00
Third, James H. Kimball, Providence, R. I., Manchester, Harris's Treatise on Insects, ...

Regular Prizes.

STRAWBERRIES.—Four quarts of Downing, William Doran & Son, 3 00
Second, E. W. Wood, ... 2 00
Miner's Prolific, L. W. Weston, ... 3 00
Seth Boyden, E. W. Wood, ... 3 00
Sharpless, E. W. Wood, ... 3 00
Wilder, Joseph Burnett, ... 3 00
Second, Marshall P. Wilder, , ... 2 00
Two quarts of Bidwell, James H. Kimball, ... 2 00
Second, Marshall P. Wilder, ... 1 00
Brighton Pine, Warren Fenno, ... 2 00
Champion, Joseph D. Fitts, ... 2 00
Charles Downing, Warren Fenno, ... 2 00
Second, E. W. Wood, ... 1 00
Col. Cheney, Joseph D. Fitts, ... 2 00
Second, William Doran & Son, ... 1 00
Cumberland Triumph, Marshall P. Wilder, ... 2 00
Hervey Davis, Marshall P. Wilder, ... 2 00
Jersey Queen, Joseph D. Fitts, ... 2 00
Second, James H. Kimball, ... 1 00
Jucunda, C. E. Grant, ... 2 00
Manchester, Joseph D. Fitts, ... 2 00
Second, Marshall P. Wilder, ... 1 00
Miner's Prolific, Joseph D. Fitts, ... 2 00
Monarch, Joseph D. Fitts, ... 2 00
Second, C. E. Grant, ... 1 00
Seth Boyden, E. W. Wood, ... 2 00
Second, Marshall P. Wilder, ... 1 00
Sharpless, George V. Fletcher, ... 2 00
Second, Warren Heustis, ... 1 00
Any other variety, Warren Heustis, Belmont, ... 2 00
Second, Joseph D. Fitts, Gypsy, ... 1 00
Collection of not less that six varieties, one quart of each, Joseph D. Fitts, ... 4 00
One quart of any new variety, not previously exhibited, J. R. Hawkins, Mountainville, N. Y., Banquet, ... 3 00
Second, Joseph D. Fitts, Seneca Queen, ... 2 00
Fifty berries of any variety, Warren Heustis, ... 2 00
CHERRIES.—Two quarts of any variety, I. P. Langworthy, . . 2 00
Second, C. E. Grant, ... 1 00
FOREIGN GRAPES.—Two bunches of any variety, Francis B. Hayes, Victoria Hamburg, ... 3 00
Second, Francis B. Hayes, Black Hamburg, ... 2 00
Third, E. Sheppard, " " 1 00

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Gratuities:

C. E. Grant, Cherries, Strawberries, and Apples,	$2 00
A. D. Capen, Cherries and Strawberries,	1 00
Marshall P. Wilder, Strawberries,	1 00
J. R. Hawkins, Raspberries,	1 00

JULY 7.

STRAWBERRIES.—Two quarts of any variety, Warren Heustis, Belmont,	2 00
CHERRIES.—Two quarts of Black Eagle, C. E. Grant,	2 00
Two quarts of Black Tartarian, " "	2 00
Two quarts of Downer, " "	2 00
Second, Samuel Lockwood,	1 00
Two quarts of any other variety, C. E. Grant, Napoleon,	2 00
Second, Horace Partridge, May Duke,	1 00

Gratuity:—

B. G. Smith, Raspberries and Currants,	2 00

JULY 14.

CHERRIES.—Two quarts of any variety, Warren Fenno, Downer,	2 00
RASPBERRIES.—Two quarts of any variety, C. E. Grant, Cuthbert,	2 00
Second, William Doran & Son, Franconia,	1 00
CURRANTS.—Four quarts of any Red variety, B. G. Smith, Versaillaise,	3 00
Second, E. W. Wood, Versaillaise,	2 00
Third, William Doran & Son, "	1 00
Two quarts of any White variety, B. G. Smith, Transparent,	3 00
Second, B. G. Smith, Dana's Transparent,	2 00

Gratuities:—

C. E. Grant, Raspberries and Currants,	1 00
John L. Gardner, McLaren's Prolific Raspberries,	1 00
A. D. Capen, Raspberries,	1 00
M. W. Chadbourne, Currants and Gooseberries,	1 00
B. G. Smith, June-Berries,	1 00

JULY 21.

RASPBERRIES. — Not less than four varieties, two quarts of each, William Doran & Son,	4 00
Second, B. G. Smith,	3 00
Two quarts of any variety, William Doran & Son, Franconia,	2 00
Second, A. D. Capen, Franconia,	1 00
BLACKCAPS. — Two quarts of any variety, C. E. Grant, Mammoth,	2 00
CURRANTS. — Two quarts of Dana's Transparent, B. G. Smith,	2 00
Second, C. E. Grant,	1 00
Two quarts of Versaillaise, Lemuel Clapp,	2 00
Second, B. G. Smith,	1 00

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Two quarts of any other variety, B. G. Smith, Transparent,	$2 00
Second, William Doran & Son, Cherry,	1 00
BLACKBERRIES. — Two quarts of any variety, A. S. McIntosh, Dorchester,	2 00

JULY 28.

CURRANTS. — Two quarts of any Red variety, B. G. Smith, Versaillaise,	2 00
Second, Mrs. E. M. Gill, Versaillaise,	1 00
Two quarts of any White variety, M. W. Chadbourne, Transparent,	2 00
Second, B. G. Smith, Transparent,	1 00
BLACKBERRIES. — Two quarts of any variety, A. S. McIntosh, Dorchester,	2 00
Second, James Nugent, Dorchester,	1 00
GOOSEBERRIES. — Two quarts of any Native variety, B. G. Smith, Smith's Seedling,	2 00
Second, Warren Fenno, Downing,	1 00
Gratuity: —	
Francis B. Hayes, Foreign Grapes,	3 00

AUGUST 4.

BLACKBERRIES. — Two quarts of any variety, James Nugent, Dorchester,	2 00
Second, A. S. McIntosh, Dorchester,	1 00
GOOSEBERRIES. — Two quarts of any Foreign variety, B. G. Smith, Whitesmith,	2 00
Second, B. G. Smith, Bang-Up,	1 00
PEARS. — Summer Doyenne, E. W. Wood,	2 00
Second, Peveril Meigs,	1 00
Any other variety, Horace Eaton, André Desportes,	2 00
Second, Hovey & Co., Quimper,	1 00
APRICOTS. — Any variety, Moses Darling, Jr.,	2 00
Gratuity: —	
Samuel Hartwell, Peaches and Apples,	1 00

AUGUST 11.

APPLES. — Sweet Bough, Warren Fenno,	2 00
Any other variety, Lemuel Clapp, Williams,	2 00
Second, Samuel Hartwell, Williams,	1 00
PEARS. — Beurre Giffard, Warren Fenno,	2 00
Second, Mrs. Mary Langmaid,	1 00
Any other variety, Robert Manning, Bloodgood,	2 00
Second, George Frost, Quimper,	1 00
Gratuity: —	
Samuel Hartwell, Apples, Pears, and Peaches,	1 00

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AUGUST 18.

APPLES. — Red Astrachan, J. T. Foster,	$2 00
Second, C. C. Shaw,	1 00
Williams, Joseph Coolidge,	2 00
Second, Samuel Hartwell,	1 00
PEARS. — Clapp's Favorite, Horace Eaton,	2 00
Second, Warren Fenno,	1 00
Elizabeth, Mrs. Mary Langmaid,	2 00
Second, Warren Fenno,	1 00
Any other variety, C. N. Brackett, Brandywine,	2 00
Second, Hovey & Co., "	1 00
FIGS. — Any variety, Francis B. Hayes,	2 00

Gratuities: —

Horace Partridge, Foreign Grapes,	1 00
George Frost, Pears,	1 00
Robert Manning, Pears and Blackberries,	1 00
Samuel Hartwell, Pears, Apples, and Peaches,	2 00
Mrs. Benjamin Fobes, Figs,	1 00
Warren Fenno, Pears,	1 00
M. W. Chadbourne, Pears,	1 00

AUGUST 25.

PEARS. — Bartlett, Mrs. Mary Langmaid,	2 00
Second, Charles L. Fowle,	1 00
Rostiezer, M. W. Chadbourne,	2 00
Second, Horace Eaton,	1 00
Tyson, A. S. McIntosh,	2 00
Second, Samuel McIntosh,	1 00
Any other variety, Warren Fenno, Ananas d' été,	2 00
Second, Horace Eaton, Petite Marguerite,	1 00

Gratuities:—

Samuel Hartwell, Pears, Apples, and Plums,	2 00

John S. Farlow, ten varieties of Foreign Grapes, Silver Medal.

SEPTEMBER 1.

APPLES.—Any variety, Samuel Hartwell, Gravenstein,	2 00
Second, " " Holden,	1 00
PEARS.—Bartlett, Mrs. Mary Langmaid,	2 00
Second, T. M. Davis,	1 00
Any other variety, Horace Partridge, Belle Lucrative,	2 00
Second, C. E. Grant, Flemish Beauty,	1 00
PEACHES.—Any variety, Samuel Hartwell, Crawford's Early,	3 00
PLUMS.—Any variety, Horace Eaton, Washington,	2 00
Second, John B. Moore & Son, Sharp's Emperor,	1 00

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NATIVE GRAPES.—Six bunches of any variety, John B. Moore & Son, Moore's Early,	$2 00
Second, J. W. Talbot, Cottage,	1 00
Gratuities:—	
C. E. Grant, Grapes and Pears,	1 00
Horace Eaton, Plums,	1 00
F. J. Dutcher, "	1 00
Samuel Hartwell, " and Apples,	1 00
B. G. Smith, Grapes,	1 00

SEPTEMBER 8.

APPLES.—Gravenstein, Francis Smith,	2 00
Second, Samuel Hartwell,	1 00
Porter, Samuel Hartwell,	2 00
Second, L. W. Weston,	1 00
Any other variety, Samuel Hartwell, Holden,	2 00
Second, " " Pumpkin Sweet,	1 00
PEARS.—Andrews, Mrs. Mary Langmaid,	2 00
Second, Charles F. Curtis,	1 00
Boussock, Horace Eaton,	2 00
Second, C. N. Brackett,	1 00
Any other variety, Hovey & Co., Hanna's,	2 00
Second, Warren Fenno, Esperine,	1 00
PEACHES.—Collection, Samuel Hartwell,	3 00
PLUMS.—Collection, not less than four varieties, Horace Eaton,	3 00
Second, John B. Moore & Son,	2 00
Any one variety, John B. Moore & Son, Yellow Gage,	2 00
Second, F. J. Dutcher, McLaughlin,	1 00
NATIVE GRAPES.—Six bunches of Delaware, Cephas H. Brackett,	2 00
Second, Horace Partridge,	1 00
Hartford, Cephas H. Brackett,	2 00
Second, T. M. Davis,	1 00
Moore's Early, John B. Moore & Son,	2 00
Second, Samuel Hartwell,	1 00
Any other variety, B. G. Smith, Creveling,	2 00
Second, S. G. Damon, Adirondac,	1 00
Gratuity:—	
C. E. Grant, Peaches, Pears, and Apples,	1 00

ANNUAL EXHIBITION.

SEPTEMBER 18, 19, 20, AND 21.

Special Prize offered by George A. Stone, Rochester, N. Y.

NATIVE GRAPES.—Twelve bunches of Pocklington, John Charlton, Rochester, N. Y.,	$75 00
Six bunches, Joseph S. Chase,	25 00

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Special Prizes offered by the Society.

Twelve Gravenstein Apples, Samuel Hartwell,	$5 00
Twelve Bartlett Pears, Mrs. Mary Langmaid,	5 00
Twelve Peaches of any variety, Samuel Hartwell, Crawford's Early,	5 00
Twelve bunches Native Grapes of any variety, John B. Moore & Son, Moore's Early,	5 00

Regular Prizes.

Apples.—Baldwin, John Cummings,	3 00
Second, Mrs. A. M. Winn,	2 00
Third, C. L. Weston,	1 00
Danvers Sweet, John Cummings,	2 00
Second, C. N. Brackett,	1 00
Dutch Codlin, Lemuel Clapp,	2 00
Holden, Samuel Hartwell,	2 00
Gravenstein, Warren Heustis,	3 00
Second, Samuel Hartwell,	2 00
Third, Lemuel Clapp,	1 00
Hubbardston, L. W. Weston,	3 00
Second, Samuel Hartwell,	2 00
Third, M. W. Chadbourne,	1 00
Hunt, Samuel Hartwell,	2 00
Second, C. N. Brackett,	1 00
Lady's Sweet, Warren Fenno,	2 00
Lyscom, Samuel Hartwell,	2 00
Northern Spy, John B. Turner,	2 00
Second, Samuel Hartwell,	1 00
Porter, Mrs. A. M. Winn,	2 00
Second, Samuel Hartwell,	1 00
Pumpkin, George W. Stevens,	2 00
Second, Lemuel Clapp,	1 00
Rhode Island, John L. D'Wolf,	3 00
Second, C. N. Brackett,	2 00
Third, Samuel Hartwell,	1 00
Roxbury, John L. D'Wolf,	3 00
Second, Mrs. M. T. Goddard,	2 00
Third, C. N. Brackett,	1 00
Tompkins King, Samuel Hartwell,	2 00
Second, Hovey & Co.,	1 00
Tolman Sweet, J. T. Foster,	3 00
Second, Josiah Crosby,	2 00
Third, Lemuel Clapp,	1 00
Washington Royal, Josiah Crosby,	2 00
Washington Strawberry, Lemuel Clapp,	2 00
Second, Warren Fenno,	1 00
Any other variety, Samuel Hartwell, Gloria Mundi,	2 00
Second, Samuel Hartwell, Pound Sweet,	1 00

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Crab Apples.—Hyslop, Cephas H. Brackett,	$2 00
Second, Mrs. Austin W. Ward,	1 00
Transcendent, Warren Fenno,	2 00
Pears.—Angouleme, John McClure,	3 00
Second, W. S. Janvrin,	2 00
Third, Warren Fenno,	1 00
Anjou, Mrs. Mary Langmaid,	3 00
Second, W. S. Janvrin,	2 00
Third, C. N. Brackett,	1 00
Bartlett, Mrs. Mary Langmaid,	3 00
Second, N. D. Harrington,	2 00
Third, George S. Harwood,	1 00
Bosc, Mrs. Mary Langmaid,	3 00
Second, Warren Fenno,	2 00
Third, Charles F. Curtis,	1 00
Boussock, George S. Harwood,	2 00
Second, Horace Eaton,	1 00
Clairgeau, W. P. Plimpton,	3 00
Second, Mrs. Mary Langmaid,	2 00
Third, Jesse Haley,	1 00
Comice, Horace Eaton,	2 00
Second, Warren Fenno,	1 00
Dana's Hovey, I. D. White,	3 00
Second, E. W. Wood,	2 00
Third, Hovey & Co.,	1 00
Diel, A. S. McIntosh,	2 00
Second, Walker & Co.,	1 00
Hardy, Mrs. H. P. Kendrick,	2 00
Second, Jesse Haley,	1 00
Goodale, C. E. Grant,	2 00
Second, Marshall P. Wilder,	1 00
Howell, Jesse Haley,	2 00
Second, B. G. Smith,	1 00
Lawrence, Mrs. Mary Langmaid,	2 00
Second, Warren Fenno,	1 00
Louise Bonne of Jersey, George S. Harwood,	2 00
Second, Mrs. Mary Langmaid,	1 00
Lucrative, Mrs. Mary Langmaid,	2 00
Second, Horace Partridge,	1 00
Marie Louise, Warren Fenno,	2 00
Second, Walker & Co.,	1 00
Merriam, Charles F. Curtis,	2 00
Second, Marshall P. Wilder,	1 00
Nelis, Warren Fenno,	2 00
Second, T. M. Davis,	1 00
Onondaga, Marshall P. Wilder,	2 00
Second, Horace Eaton,	1 00

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Paradise, William A. Crafts,	$2 00
Second, Hovey & Co.,	1 00
Seckel, George S. Harwood,	3 00
Second, John L. Bird,	2 00
Third, George E. Peters,	1 00
Sheldon, Mrs. H. P. Kendrick,	3 00
Second, George S. Harwood,	2 00
Third, Mrs. Mary Langmaid,	1 00
Souvenir du Congrès, B. G. Smith,	2 00
Second, Marshall P. Wilder,	1 00
St. Michael Archangel, Walker & Co.,	2 00
Second, T. M. Davis,	1 00
Superfin, Warren Fenno,	2 00
Second, E. W. Wood,	1 00
Urbaniste, Mrs. Mary Langmaid,	2 00
Second, John L. Bird,	1 00
Vicar, A. S. McIntosh,	2 00
Second, Warren Fenno,	1 00
Any other variety, Marshall P. Wilder, Clapp's Favorite,	2 00
Second, Augustus Bacon, Flemish Beauty,	1 00
PEACHES.—Crawford's Early, Samuel Hartwell,	2 00
Second, Elijah H. Luke,	1 00
Crawford's Late, Samuel Hartwell,	2 00
Foster, Samuel Hartwell,	2 00
Second, John B. Moore & Son,	1 00
Any other variety, A. W. Felton, Yellow Rareripe,	2 00
Second, Samuel Hartwell, Grosse Mignonne,	1 00
NECTARINES.—Warren Fenno,	2 00
PLUMS.—Collection of not less than four varieties, Samuel Hartwell,	4 00
Second, John B. Moore & Son,	3 00
Any one variety, B. G. Smith, Coe's Golden,	2 00
Second, Samuel Hartwell, Jefferson,	1 00
NATIVE GRAPES.—Six bunches of Brighton, D. A. Wasson,	2 00
Second, John McFarland,	1 00
Concord, John B. Moore & Son,	2 00
Second, Cephas H. Brackett,	1 00
Delaware, Joseph S. Chase,	2 00
Second, John B. Moore & Son,	1 00
Massasoit, John B. Moore & Son,	2 00
Second, Cephas H. Brackett,	1 00
Moore's Early, Horace Eaton,	2 00
Second, John B. Moore & Son,	1 00
Wilder, Joseph S. Chase,	2 00
Second, Cephas H. Brackett,	1 00
Worden, Samuel Hartwell,	2 00
Any other variety, John B. Moore & Son, Iona Seedling,	1 00
Second, Samuel Hartwell, Norwood,	

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FOREIGN GRAPES.—Four varieties, two bunches of each, John S. Farlow,	$8 00
Second, Elijah H. Luke,	6 00
Third, Benjamin G. Smith,	4 00
Two bunches of Black Hamburg, George Higginson,	4 00
Second, John S. Farlow,	3 00
Third, C. E. Grant,	2 00
Wilmot's Hamburg, John S. Farlow,	4 00
Second, George Higginson,	3 00
Muscat of Alexandria, John S. Farlow,	5 00
Any other variety, John S. Farlow, Pope's Hamburg,	5 00
Second, George Higginson, White Frontignan,	4 00
CRANBERRIES.—Half-peck, A. M. Tilley,	2 00

Gratuities:—

Francis Smith, Gravenstein Apples,	1 00
Warren Fenno, Pears and Apples,	2 00
W. A. Morse, " "	2 00
L. W. Weston, " "	2 00
C. E. Grant, " "	3 00
Samuel Hartwell, " "	1 00
I. D. White, Pears,	3 00
M. W. Chadbourne, Pears,	2 00
C. N. Brackett, "	2 00
William T. Hall, "	2 00
John Cummings, "	1 00
Augustus Bacon, "	1 00
Horace Partridge, "	1 00
Hovey & Co., "	1 00
Marshall P. Wilder, "	1 00
E. S. Converse, "	1 00
Francis B. Hayes, "	1 00
John S. Farlow, Foreign Grapes,	3 00
B. G. Smith, " "	1 00
Jonathan Mann, Hamburg Grapes,	1 00
William Richardson, Concord Grapes,	1 00
G. W. Jameson, Barberries,	1 00
William Doran & Son, Raspberries,	1 00
O. M. Holmes, Cranberries,	1 00

John B. Moore, Display of the Francis B. Hayes Grape, Silver Medal.

SEPTEMBER 29.

Gratuities:—

N. D. Harrington, Pears,	1 00
D. W. Lothrop, Seedling Pear,	1 00
S. G. Stone, Isabella Grapes,	1 00

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FOREIGN GRAPES.—Two bunches of any variety, John L. Gardner, Black Hamburg,	$3 00
Second, E. W. Wood, Wilmot's Hamburg,	2 00

Gratuities:—

T. L. Perkins, Apples,	1 00
C. W. Grant, "	1 00
C. E. Grant, Apples and Pears,	1 00
Samuel Hartwell, Apples and Peaches,	1 00
Francis Smith, Apples, Pears, and Peaches,	1 00
A. S. McIntosh, Pears,	2 00
Warren Fenno, Pears,	2 00
M. W. Chadbourne, Pears and Grapes,	1 00
B. G. Smith, Grapes,	1 00
William H. Wilcox, Grapes,	1 00
John B. Moore & Son, Peaches,	1 00

A. J. Bigelow, Concord Grapes, Silver Medal.

NOVEMBER 8 AND 9.

French Premiums.

APPLES.—Baldwin, John Cummings,	2 00
Second, J. T. Foster,	1 00
Hubbardston, L. W. Weston,	2 00
Second, M. W. Chadbourne,	1 00
Hunt, Samuel Hartwell,	2 00
Lady's Sweet, Warren Fenno,	2 00
Northern Spy, Samuel Hartwell,	2 00
Rhode Island, A. S. McIntosh,	2 00
Roxbury, Cephas H. Brackett,	2 00
Tolman Sweet, J. T. Foster,	2 00
Tompkins King, Samuel Hartwell,	2 00
Second, John Parker,	1 00
PEARS.—Angouleme, Warren Fenno,	2 00
Second, John McClure,	1 00
Anjou, Mrs. Mary Langmaid,	2 00
Second, A. S. McIntosh,	1 00
Comice, John C. Park,	2 00
Second, Warren Fenno,	1 00
Dana's Hovey, Warren Fenno,	2 00
Second, Hovey & Co.,	1 00
Glout Morceau, Augustus Bacon,	2 00
Second, A. S. McIntosh,	1 00
Josephine of Malines, Warren Fenno,	2 00
Langelier, C. E. Grant,	2 00
Second, A. S. McIntosh,	1 00
Lawrence, Mrs. Mary Langmaid,	2 00
Second, John McClure,	1 00

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REPORT

OF THE

COMMITTEE ON VEGETABLES,

FOR THE YEAR 1883.

By CHARLES N. BRACKETT, CHAIRMAN.

The closing of another exhibition season reminds us of a duty which, by custom and in conformity to our By-Laws, we owe the Society, of rendering to it an account of our labors for the year, together with the amount of awards in prizes and gratuities which have been made.

In reviewing the season, which has in many respects been a most remarkable one, your Committee cannot but feel gratified at the progress made, and the good degree of success which has attended the efforts of contributors under so many disadvantageous circumstances.

The excessive drought and scorching sun of the past summer were not propitious for the production of fine specimens of vegetable growth, and the effect was shown in a marked manner at some of our weekly exhibitions. But, in spite of these discouragements, the displays, on the whole, have been most gratifying, and no lack of interest has been manifested on the part of contributors.

The show of forced vegetables, during the early portion of the season, as has been the case for several years past, was confined to a few contributors. To President Hayes, Josiah Crosby, and Cephas H. Brackett, we have been indebted for the occasional exhibition of choice specimens during the months of February and

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host of so-called new or improved varieties appear and disappear with every season, this variety has gone on steadily increasing in favor from its first introduction, until it is now almost universally acknowledged to be the best and most valuable of all. The Acme, Paragon, and Emery, we consider the best three of the many varieties before the public. If confined to but one variety, we should choose the Acme.

The season has been favorable for Melons, and they have been shown in great perfection. August 18 the first prize was awarded to George Hill, for Greenflesh, and he again received the same prize September 1. As usual, his specimens were superb, and in the best possible condition, as some of your Committee can testify.

The shows of Celery, Egg Plants, and Cauliflowers were worthy of special mention. Josiah Crosby's splendid specimens of celery at the Annual Exhibition took both the special and first regular prizes. John Cummings did the same with cauliflowers, his specimens of Early Dawn being the best we have ever seen; they attracted the attention of all who entered the Hall. Some remarkably fine specimens of Egg Plant were exhibited during the season by Joseph G. Coolidge and George D. Moore.

At the Annual Exhibition, we have to report the largest and best show of Potatoes ever made by this Society. This crop has, the past season, been more than an average one, both in quality and yield, and was sufficiently advanced when the dry weather set in to escape the drought. There were ninety-five dishes in competition for the fifteen prizes, which, it is hardly necessary to say, were all awarded. The largest contributor was John Cummings, who showed a fine collection of thirty varieties. Aaron Low was next, with a collection of twenty varieties. The first prize for the best four varieties was taken by Mr. Cummings, who also took the first prize for the best dish of Clark, and the first for "any other variety" was awarded him for King. For Rose, Samuel Hartwell was the successful competitor, and John B. Moore was first for Hebron.

It is one of the easiest things in the world to raise new varieties of the potato from seed, but it is not so easy to make advances on the best varieties in cultivation. Experience shows that the most hopeful and promising seedlings at the start, often prove worthless in the course of further experiment, and the time and labor of cultivating many thousand seedlings is required to secure a single

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The amount of $514 has been awarded in prizes and gratuities the past year, leaving an unexpended balance of $16 to be returned to the treasury.

Annexed will be found a list of the awards which have been made by your Committee.

Respectfully submitted,

C. N. BRACKETT, *Chairman.*

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Lettuce.—Four heads, J. Crosby,	$3 00
Second, George F. Stone,	2 00
Parsley.—Two quarts, William Patterson,	2 00
Gratuities :—	
C. H. Brackett, Mushrooms and Cucumbers,	2 00
C. M. Atkinson, Parsley,	1 00

March 31.

Gratuity :—	
Josiah Crosby, Lettuce,	1 00

April 14.

Gratuity :—	
Francis B. Hayes, Cucumbers and Lettuce,	2 00

April 21.

Gratuity :—	
C. H. Brackett, Mushrooms and Cucumbers,	2 00

April 28.

Gratuity :—	
George W. Pierce, Lettuce,	2 00

May 5.

Gratuity :—	
Josiah Crosby, Dandelions,	1 00

May 12.

Gratuities :—	
John B. Moore, Asparagus,	2 00
Samuel Hartwell, "	1 00
Josiah Crosby, Carrots and Radishes,	1 00

May 19.

Gratuities :—	
C. H. Brackett, Tomatoes and Rhubarb,	2 00
Samuel Hartwell, Asparagus and Rhubarb,	1 00

May 26.

Gratuities :—	
Josiah Crosby, Collection,	3 00
C. H. Brackett, "	2 00
C. W. Grant, Rhubarb,	1 00

June 2.

Gratuities :—	
C. H. Brackett, Tomatoes and Cucumbers,	1 00
M. W. Chadbourne, Rhubarb,	1 00
Marshall P. Wilder, Marquis of Lorne Cucumbers,	1 00

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JULY 7.

ONIONS.—Twelve, Josiah Crosby, ... $2 00
SQUASHES.—Four Long Warted, Warren Heustis, ... 2 00
CABBAGES.—Four, Josiah Crosby, Henderson's Early, . . . 2 00
Second, Warren Heustis, " " . . . 1 00

Gratuity :—

H. S. Messenger, Marquis of Lorne Cucumbers, ... 1 00

JULY 14.

POTATOES.—Peck, L. W. Weston, Hebron, ... 3 00
Second, C. B. Lancaster, Clark, ... 2 00

Gratuities :—

Samuel Hartwell, Champion Peas, ... 1 00
George Hill, Emery Tomatoes, ... 2 00
C. E. Grant, Collection of Beans, ... 2 00

JULY 21.

CABBAGES.—Four Drumhead, Josiah Crosby, ... 3 00
TOMATOES.—Twelve, C. N. Brackett, Acme, ... 3 00
Second, S. Hartwell, Boston Market, ... 2 00
SWEET CORN.—Twelve ears, S. Hartwell, Marblehead, . . . 3 00
Second, C. N. Brackett, " . . . 2 00

Gratuity :—

M. W. Chadbourne, Potatoes, ... 1 00

JULY 28.

SQUASHES.—Four Marrow, Josiah Crosby, ... 3 00
Second, Warren Heustis, ... 2 00
SWEET CORN.—Twelve ears, J. Crosby, Crosby, ... 3 00
Second, L. W. Weston, Weston's Early, ... 2 00
Third, C. E. Grant, Crosby, ... 1 00
TOMATOES.—Twelve, Samuel Hartwell, Acme, ... 3 00
Second, C. N. Brackett, " 2 00

Gratuities :—

Francis B. Hayes, Collection of Peas, ... 2 00
M. W. Chadbourne, Hebron Potatoes, ... 1 00
L. W. Weston, " " 1 00
Warren Heustis, Rose Potatoes, ... 1 00

AUGUST 4.

SQUASHES.—Four Marrow, Josiah Crosby, ... 2 00
Second, Warren Heustis, ... 1 00
SWEET CORN.—Twelve ears, L. W. Weston, Weston's Early, . . 2 00
Second, Samuel Hartwell, Crosby, ... 1 00

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Tomatoes.—Twelve, C. N. Brackett, Acme,
Second, Samuel Hartwell, "
Third, C. N. Brackett, Perfection,

Gratuities:—

Samuel Hartwell, Potatoes and Tomatoes,
Warren Heustis, " " Peppers,

August 11.

Greenflesh Melons.—Four, George Hill,
Tomatoes.—Twelve Acme, C. N. Brackett,
Second, Samuel Hartwell,
Emery, Samuel Hartwell,
Second, C. N. Brackett,
Any other variety, Samuel Hartwell, Perfection,
Second, Samuel Hartwell, Trophy,
Egg Plant.—Four Round Purple, Joseph G. Coolidge,
Second, George Hill,

Gratuities:—

Josiah Crosby, Onions,
C. H. Cutler, Celery,
Samuel Hartwell, Collection,
C. E. Grant, "
M. B. Faxon, "

August 18.

Greenflesh Melons.—Four, George Hill,
Muskmelons.—Four, Samuel Hartwell,
Egg Plant.—Four, J. G. Coolidge,
Second, Daniel Duffley,

Gratuities:—

C. E. Grant, Lima Beans,
C. N. Brackett, Tomatoes,
J. G. Coolidge, "
Samuel Hartwell, Collection,
Francis B. Hayes, "

August 25.

Potatoes.—Peck, John Cummings, Rose,
Second, Samuel Hartwell, Hebron,
Beans.—Large Lima, two quarts, B. G. Smith,
Second, C. E. Grant,
Peppers.—Twelve, Warren Heustis,
Second, Horace Eaton,

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Gratuities:—

George Hill, Melons,	$2 00
M. W. Chadbourne, Melons,	1 00
E. W. Wood, Lima Beans,	1 00
Mrs. E. M. Gill, Sweet Corn,	1 00
Samuel Hartwell, Collection,	2 00
C. E. Grant, "	1 00

SEPTEMBER 1.

WATERMELONS.—Pair, Samuel Hartwell, Black Spanish,	3 00
Second, " " Mountain Sweet,	2 00
GREENFLESH MELONS.—Four, George Hill,	3 00
Second, Samuel Hartwell,	2 00

Gratuities:—

C. E. Grant, Lima Beans,	1 00
W. C. Strong, Ensilage Corn,	1 00
Francis B. Hayes, Collection,	1 00

SEPTEMBER 8.

CAULIFLOWERS.—Four, John Cummings,	3 00
Second, Samuel Hartwell,	2 00
CELERY.—Four roots, Josiah Crosby,	3 00

Gratuity:—

Samuel G. Stone, Lima Beans,	1 00

ANNUAL EXHIBITION.

SEPTEMBER 18, 19, 20, AND 21.

Special Prizes.

CAULIFLOWERS.—Best four specimens, and best kept during the exhibition, John Cummings,	$5 00
CELERY.—Best four specimens, and best kept during the exhibition, Josiah Crosby,	5 00

Regular Prizes.

BEETS.—Twelve Turnip Rooted, George F. Stone,	3 00
Second, Walter Russell,	2 00
Third, George Hill,	1 00
CARROTS.—Twelve Long Orange, George Hill,	3 00
Second, Josiah Crosby,	2 00
Third, John L. D'Wolf,	1 00
Intermediate, Josiah Crosby,	3 00
Second, George Hill,	2 00
Third, Francis B. Hayes,	1 00

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Parsnips.—Twelve Long, John L. D'Wolf,	$3 00
Second, Francis B. Hayes,	2 00
Third, George Hill,	1 00
Potatoes.—Four varieties, one peck each, John Cummings,	4 00
Second, Aaron Low,	3 00
Third, C. N. Brackett,	2 00
Clark, John Cummings,	3 00
Second, Aaron Low,	2 00
Third, C. B. Lancaster,	1 00
Hebron, John B. Moore,	3 00
Second, John Cummings,	2
Third, Samuel Hartwell,	
Peck of Rose, Samuel Hartwell,	
Second, John Cummings,	
Third, J. G. Coolidge,	
Any other variety, John Cummings, King,	
Second, Aaron Low, Jones Prize,	
Third, L. W. Weston, Early Vermont,	
Salsify.—Twelve specimens, John L. D'Wolf,	
Second, George F. Stone,	
Turnips.—Twelve Flat, George Russell,	
Second, George F. Stone,	
Third, John Cummings,	1 00
Swedish, George F. Stone,	3 00
Second, Francis B. Hayes,	2 00
Third, Mrs. M. T. Goddard,	1 00
Onions.—Peck of Danvers, George Hill,	3 00
Second, John Cummings,	2 00
Third, George D. Moore,	1 00
Red, George Hill,	3 00
Second, John Cummings,	2 00
Third, Walter Russell,	1 00
White Portugal, Josiah Crosby,	3 00
Second, Samuel Hartwell,	2 00
Third, John Cummings,	1 00
Greenflesh Melons.—Four, C. E. Grant,	3 00
Second, John Cummings,	2 00
Third, Warren Heustis,	1 00
Muskmelons.—Four, John Cummings,	3 00
Third prize to S. A. Merrill,	1 00
Watermelons.—Pair, Sidney Lawrence, Cuban Queen,	3 00
Second, Samuel Hartwell, " "	2 00
Third, " " Black Spanish,	1 00
Squashes.—Four Canada, George Dorr,	3 00
Second, Josiah Pratt,	2 00
Third, John L. D'Wolf,	1 00
Hubbard, John Cummings,	3 0

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Second, Walter Russell,	$2 00
Third, J. G. Coolidge,	1 00
Marblehead, John Cummings,	3 00
Marrow, George Hill,	3 00
Second, Walter Russell,	2 00
Third, John Cummings,	1 00
Perfect Gem, C. N. Brackett,	3 00
Second, John Cummings,	2 00
Third, Walter Russell,	1 00
Turban, Aaron Low,	3 00
Second, John Cummings,	2 00
Third, Samuel Hartwell,	1 00
CABBAGES.—Four Drumhead, Samuel Hartwell,	3 00
Second, John Cummings,	2 00
Third, C. B. Lancaster,	1 00
Red, John Cummings,	3 00
Second, Francis B. Hayes,	2 00
Savoy, " " "	3 00
Second, John Cummings,	2 00
Third, C. B. Lancaster,	1 00
CAULIFLOWERS.—Four, John Cummings,	3 00
Second, Samuel Hartwell,	2 00
CELERY.—Four roots, Josiah Crosby,	3 00
Second, George D. Moore,	2 00
ENDIVE.—Four roots, A. F. Allen,	2 00
LIMA BEANS.—Two quarts, Samuel G. Stone,	3 00
Second, Benjamin G. Smith,	2 00
Third, E. W. Wood,	1 00
CORN.—Sweet, twelve ears, John Cummings,	3 00
Second, S. A. Merrill,	2 00
Third, J. G. Coolidge,	1 00
Field, twenty-five ears, traced, Mrs. M. T. Goddard,	3 00
Second, C. N. Brackett,	2 00
Third, Horace Eaton,	1 00
EGG PLANTS.—Four Round Purple, George D. Moore,	3 00
Second, J. G. Coolidge,	2 00
Third, A. F. Allen,	1 00
TOMATOES.—Three varieties, Aaron Low,	4 00
Second, S. G. Stone,	3 00
Third, George W. Pierce,	2 00
Acme, Twelve specimens, John B. Moore,	2 00
Second, John Cummings,	1 00
Emery, George W. Pierce,	2 00
Second, Mrs. A. M. Winn,	1 00
Paragon, John Cummings,	2 00
Second, Samuel G. Stone,	$1 00

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Perfection, George W. Pierce, ...
Second, Francis B. Hayes, ...
Any other variety, Walter Russell, Boston Market, . .
Second, Mrs. A. M. Winn, Livingston's, ...
MARTYNIAS.—Twenty-four specimens, George W. Pierce, .
Second, C. E. Grant, ...
OKRA.—Twenty-four specimens, A. F. Allen, ...
Second, Mrs. M. T. Goddard, ...
PEPPERS.—Twenty-four, Josiah Crosby, ...
Second, C. N. Brackett, ...
Third, George F. Stone, ...

Gratuities:—

Warren Heustis, Lettuce, ...
Aaron Low, Collection of Potatoes, ...
Francis B. Hayes, " " . . . . . .
Albert Bresee, New Seedling Potatoes, Advance and North Star,
E. F. Bowditch, Potatoes, ...
C. E. Grant, Tomatoes, ...
C. N. Brackett, " . . . . . .
John Cummings, Collection, ...

SEPTEMBER 29.

Gratuity:—

S. G. Stone, Lima Beans, ...

OCTOBER 6.

CAULIFLOWERS.—Four, Samuel Hartwell, ...
CELERY.—Four Roots, Josiah Crosby, ...

Gratuity:—

Samuel G. Stone, Lima Beans, ...

NOVEMBER 8 AND 9.

CAULIFLOWERS.—Four, the second prize to Samuel Hartwell, .
CELERY.—Four roots, Josiah Crosby, ...
Second, C. E. Grant, ...

Gratuity:—

Cephas H. Brackett, Tomatoes and Cucumbers, ...

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REPORT

OF THE

COMMITTEE ON GARDENS,

FOR THE YEAR 1883.

By JOHN G. BARKER, Chairman.

We passed the year 1882 without making any report of our doings. Owing to a combination of circumstances beyond our control, we were invited to visit only one place, that of Edward Haskell, at New Bedford, but by some mistake a part of the Committee went on a day that was not understood by Mr. Haskell to be the one intended, so no one met the Committee, and no report was made. During the present year we have visited only two places, though we have the assurance that other invitations would have been extended but for the continued dry weather, by which we all suffered so much.

Pine Hill, the Residence of Hon. Francis B. Hayes, President of the Society.

Our first visit was to Lexington, on the 12th of June, the principal object being to see the Rhododendrons, which were placed in a much larger tent than the old one, in a new location, in a hollow at the right of and beyond the mansion house. The tent is one hundred and fifty feet long and seventy-five wide, and laid out in a neat and tasteful manner, in beds of various forms, with grass walks. Besides the previously large collection, many new and fine varieties of exquisite beauty have been added, and interspersed at different places were large specimen plants of Indian Azaleas, *Bougainvillea glabra*, *Alsophila excelsa*, and Dracænas, with other foliage and flowering plants, while at each post

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was planted a clematis or some other hardy climbing plant. It is only just to say, that on account of the sudden change to warm weather the rhododendrons were not in as good condition as they otherwise would have been, but with a favorable season, and the consummation of the contemplated improvements, the rhododendron tent will be a very attractive and interesting feature of the place.

Near the woods and a little beyond the rhododendron tent, there is building a large stone mansion house, which, when completed and the surroundings improved as proposed, will add greatly to the attractiveness of the estate.

The large pit for the protection of half-hardy plants has been enlarged to twice its former capacity. The value of this pit can hardly be over-estimated, and we repeat what we said in a former report, that the many who have small estates and have not the facilities of a greenhouse, could not do better than to build a pit or partition off a portion of the cellar, where many of the half-hardy plants, so valuable for ornamental purposes, can be protected with very little trouble. In this pit are kept the choice Hybrid Rhododendrons, Indian Azaleas, Hollies, and all half-hardy plants. Hydrangeas, many of which are not hardy, but are valuable for summer decorative purposes, may be safely kept in such a pit, or a cool cellar. Mr. Comley informed us that he gave special attention to ventilation every mild day, keeping it at an average temperature of 38° to 40°, and avoiding all dampness as much as possible.

The grapery was found in a flourishing condition.

All over the grounds additional improvements are constantly being made. We all know that progress marks all the steps of Mr. Hayes, and we hope to have the pleasure of making such notes from time to time as will be of interest to the Society. We hardly need to add that our visit, as on former occasions, was one of much pleasure.

Residence of Benjamin G. Smith, Cambridge.

On the 31st of July the Committee visited the estate of Mr. Smith, on Fayerweather street, Cambridge, which contains about two acres. Mr. Smith retired from business some twenty years ago, and for amusement and recreation has since followed the pursuit which we all so much love and delight in. With what

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success his labors have been attended, the numerous exhibitions of his products which you all have witnessed speak for themselves. Mr. Smith has several times taken in the aggregate more prizes for fruits in one year at the Society's exhibitions than any other exhibitor. At the request of the Committee he has furnished us with the following notes, which will be read with interest and will commend themselves to all in like situations.

Mr. Smith says the collection comprises about fifty varieties of Apples, and he commends the Red Astrachan, Williams, Gravenstein, Hubbardston, Baldwin, Garden Royal, Hunt, Mother, Rhode Island, Roxbury, Washington Strawberry, and Foundling. He finds the Hunt more delicious than the Roxbury, and it keeps equally as well. The Garden Royal is one of the best summer dessert apples, standing among apples as Dana's Hovey among pears.

About fifty varieties of Pears are grown, beginning with Doyenné d'Ete, and passing on with Giffard, Clapp's Favorite, Boussock, Howell, Sheldon, Seckel, Urbaniste, Dana's Hovey, Lawrence, etc. All the trees are standards, and many of them, for the sake of economy in room, have several varieties grafted on each without any apparent detriment to fruit or trees. Thinning of the larger kinds is judiciously looked after. The Pound pear is especially commended for culinary purposes; parboiled and then cooked with a little syrup, Mr. Smith has it on his table nearly every day in May and June.

He has four varieties of Peaches, namely, Crawford's Early and Late, George the Fourth, and Coolidge's Favorite, and one variety of Nectarine, but the trees are all short lived, and none have been satisfactory.

Of Quinces there are four varieties, the Orange and Rea's Mammoth being the best. The latter is of very large size, Mr. Smith having taken the first prize at the Autumn Exhibition, October 10, 1882, with twelve fruits, weighing together nine pounds and twelve ounces.

There are nine varieties of Plums,—Coe's Golden, Pond's, Bradshaw, Smith's Orleans, Imperial Gage, Green Gage, Peach, and Bavay's Green Gage. Early in the season the trees are showered with a solution of whale oil soap, which is a preventive of caterpillars, and Mr. Smith thinks it renders the trees and fruit distasteful to other insect depredators. The trees are healthy, and bear fair crops.

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There are three varieties of Cherries, which do well, bearing heavy crops, and ripening perfectly. Mr. Smith recommends that dwarf trees should be planted, as they could be more easily protected from the birds.

Of Raspberries there are nine varieties, but the Franconia is preferred, though Mr. Smith speaks of the Souchetti (white) as a favorite berry, and Shaffer's Colossal as a very robust grower and quite prolific.

Among four varieties of Blackberries, the Dorchester is considered best of all.

Mr. Smith has nine varieties of Currants, and thinks the French Transparent the best for table and exhibition purposes. His best currants are produced on bushes on a slope facing north, behind the barn, and where the liquid fertilizing material from the barn cellar finds its way to the garden. He has also shown the Versaillaise, Victoria, Red Dutch, Dana's Transparent, and Black Naples.

There are eight varieties of foreign and native Gooseberries. This is a favorite fruit with Mr. Smith, and he has cultivated it with great success. The soil in which they are planted is a strong loam over two feet deep, and liberally enriched on the surface each year with cow manure. The location is in a border under the partial shade of apple trees and a high board fence a little further north. Mr. Smith gives us as a secret of success, severe pruning, and early thinning out about two-thirds of the berries; and with hellebore powder the currant worms are guarded against. At the time of our visit many of the varieties were ripe, and the Committee enjoyed a practical test of the success attained. For ten years scarcely an instance of mildew has been seen. The varieties are Whitesmith, of which the specimens were magnificent, Wellington's Glory, Yellow Amber, Glenton Green, Downing, and several unnamed sorts.

Of Strawberries, there are nine varieties. For quality the Hervey Davis, Wilder, and Hovey, are considered the leading sorts, but for size and profusion of bearing, the Sharpless is ahead of the others.

Juneberries (*Amelanchier*) and Blueberries, although rather novel as garden fruits, are grown with good success.

Of Hardy Grapes there are thirty-three kinds on trellises, arbors, and stakes. Moore's Early he commends highly for its

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many excellent qualities, and for table use he thinks well of the Iona, Brighton, and Eumelan, but informs us that for jellies Mrs. Smith prefers the common wild grape.

The Cold Grapery is a lean-to structure, facing the south; the varieties of grapes planted are Black Hamburg, Victoria Hamburg, Muscat Hamburg, Golden Hamburg, Duchess of Buccleugh, and Lady Downes. It will be noticed that there is quite a variety, which ripen their fruit at different periods of the season; they have all done well together and have not failed to produce a satisfactory crop for eight successive years since they first came into bearing. No artificial heat is used, and Mr. Smith says he experiences no trouble in the management; no exciting stimulants are used. The vines are planted inside, but never watered there, the roots being encouraged to occupy the outside border only. Pruning at the proper time is carefully attended to, as well as pinching the laterals and thinning the fruit in season. Powdered sulphur is scattered freely about the walls and leaves, and mildew, thrip, or red spider is scarcely seen. Ventilation is given by top sliding sashes only; in the warm months the ventilators are open day and night, but in cool damp weather they are closed.

Vegetables are successfully grown in abundance for table use. Mr. Smith's success with Lima Beans for many years is well-known to us all. Like some of our market gardeners, he has abandoned the French system of growing Celery, and plants it on the level as he would any other crop, and gives as a reason that it is more easily cultivated, and when earthed up the water cannot stagnate about the roots and rot the leaves.

While our report shows that much attention has been given to the useful department, the ornamental has not been neglected. We find a collection of a hundred varieties of Hybrid Perpetual Roses, and a good selection of hardy flowering shrubs, among them fine specimens of the very desirable *Hydrangea paniculata grandiflora*, also Lilies, Pæonies, Phloxes, Delphiniums, Iris, etc., with very fine beds of Rhododendrons, Andromedas, and Azaleas,—finely grown plants, which are mulched in autumn with leaves, that remain undisturbed the succeeding summer. Mr. Smith believes fully in the cultivation of hardy plants and shrubs for permanent decorative purposes, and speaks with much pleasure of the great satisfaction he has derived from introducing them into his grounds.

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A small octagonal conservatory, attached to the house, is filled each winter with about three hundred plants, access being had by glass doors directly from the library, making that room a cheerful and pleasant place to spend the cold days of winter. We have noticed in successful cultivation there, Carnations, Heliotropes, Amaryllis, Cyclamens, and the usual other varieties of winter flowering plants.

Undoubtedly some will ask how all that we have described is done; we answer, with the help of one man, a common laborer, who does the heavier work, Mr. Smith doing the rest himself, his aim being to make a pleasant home, and to cultivate every variety of fruit worth growing for a private family.

The Committee express great satisfaction at their visit, and only regret that the invitations to such places are not more frequent. They award Mr. Smith a gratuity of $20.

The attention of the members of the Society is called to the change in the arrangements of the Prizes of the Garden Committee for the year 1884, and it is earnestly desired that there may be a lively competition for all the premiums. We ask all the members to aid the Committee as much as possible, by calling their attention to any place or places, a knowledge of which would be of interest or profit to the Society.

JOHN G. BARKER,
WM. H. SPOONER,
E. W. WOOD,
C. N. BRACKETT,
HENRY ROSS,
C. W. ROSS,

Committee on Gardens.

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REPORT

OF THE

COMMITTEE OF ARRANGEMENTS,

FOR THE YEAR 1883.

The Committee of Arrangements respectfully submit the following report:

Although the season, on account of dry weather, has been somewhat unfavorable to the cultivator, yet the display of fruits, vegetables, plants, and flowers at the several exhibitions has been very fine, and much better than could have been expected.

The Azalea and Rose Show in March was one of the finest ever held by the Society, and was greatly admired by the numerous visitors, as was also the Exhibition of Roses, Strawberries, and early Vegetables, in June.

The Annual Exhibition, on the 18th, 19th, 20th, and 21st of September was a most successful one, and the fine display of Fruits, Plants, Flowers, and Vegetables was unsurpassed in quality and beauty, and greatly admired by the many who had the good fortune to visit the halls, and was highly satisfactory to the members of the Society.

The Chrysanthemum Show in November, was a decided success, and the beautiful collections exhibited by various growers have never been surpassed. The receipts were highly satisfactory, being more than double those of any other display of the kind.

The exhibitions throughout the year have been carefully looked after and arranged by the Committee, and have proved interesting and attractive to thousands, and we may in truth say that the interest felt in the growth and prosperity of the Massachusetts Horticultural Society is as great, if not greater than ever before.

From the date of the formation of the Society in 1829, a lively interest has been taken in its welfare, and from a small beginning it has become one of the most flourishing institutions in the city.

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The details of the various exhibitions have been so fully and faithfully given in the interesting reports of the Committees on Fruits, Flowers, and Vegetables, that it is unnecessary for us to enlarge upon them, as it would, of necessity, be only a repetition; and, as the receipts and expenses are all given in the Treasurer's Report, the members can ascertain from that the pecuniary results of the exhibitions.

C. H. B. BRECK, *Chairman.*

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REPORT

OF THE

COMMITTEE ON PUBLICATION AND DISCUSSION,

FOR THE YEAR 1883.

Your Committee report that the lectures and discussions the past season have been maintained with increased interest; they have been listened to by larger audiences than ever before, and were the most successful series ever held by the Society. We believe they are an important factor in the work in which we are engaged, and that it is the duty of our members to sustain them by contributions of information to the extent of their power.

As the discussions of the current year have already been widely distributed, in the form of extra copies of the reports made by the Secretary for the "Evening Transcript," and have also been published under his careful editorial supervision in our TRANSACTIONS, your Committee deem it unnecessary to make an extended report.

The following prizes have been awarded:

For an Essay upon the best method of constructing and heating a Greenhouse for amateur use, taking economy and efficiency into account, to William D. Philbrick, of Newton Centre, a prize of . . .	$25 00
For an Essay upon the question—Are live hedges to be recommended, either for utility or ornament; and if they are, what plants are most suitable?—to John J. Thomas, Union Springs, N. Y., a prize of . .	25 00

BENJ. G. SMITH,
JOHN B. MOORE,
WM. H. HUNT,
} *Committee on Publication and Discussion.*

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REPORT

OF THE

COMMITTEE ON THE LIBRARY,

FOR THE YEAR 1883.

There has been but little in the affairs of the Library during the year which calls for special comment. Its growth has been about the same as for many years past.

The income of the Stickney Fund has been expended in the prescribed manner, the Society's appropriation sufficing to keep up our subscription to the periodicals.

An increase in the amount granted a year ago, has enabled the Committee to have a great deal of binding done, thereby making fit for circulation much that in an unbound state was necessarily withheld.

Some of this year's acquisitions, of sufficient importance to deserve notice by title, are Giacomo Zanoni's Istoria Botanica, Bologna, 1675; Karsten's Flora Columbiae, a splendid work, in two large folio volumes, containing colored plates and descriptions of two hundred South American plants, and Jaubert and Spach's Illustrations of Oriental plants, in five volumes, quarto, with five hundred plates.

The successive parts of the Herefordshire Pomona and the Orchid Album have been received as they were issued, and cannot fail to be of great interest to our members. The principal nurserymen, seedsmen, and florists, of America and Europe, have furnished their catalogues, as in previous years.

The sum of one hundred dollars has been spent upon the Card Catalogue. About nine thousand cards have been written this year, against thirteen thousand in 1882, a considerable portion of the time having been spent in placing the cards in alphabetical order in the drawers, a labor demanding the greatest possible

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care, for any mistake in arrangement can only be detected by accident. This work has proceeded as far as the letter G, and it is intended to arrange all the cards now ready before writing any more, but by the end of the coming year we believe that at least thirty thousand cards will be in place.

The present year is noteworthy in the annals of botanical literature. That magnificent work, the Flora Danica, begun by the Danish Government one hundred and twenty-two years ago, has reached its conclusion. In 1761, the first fasciculus appeared, its title-page declaring that the work was to contain figures of the plants growing spontaneously in the kingdoms of Denmark and Norway, in the duchies of Sleswick and Holstein, and in the seignories of Oldenburg and Delmenhorst; and though all these dependencies have dropped away in the long march of time, leaving, of all those named, only Denmark under the Danish crown, this noble undertaking has progressed from year to year until now, at the end of four generations since its beginning, it stands complete, unsurpassed by any work of its kind.

This year finishes the first half of the term for which the Stickney fund is available for the use of our Library. The importance of this gift to us can hardly be overrated, for it has paid for the greater part of our most important books. It is this fund which has made it possible for us to gather in this room where we now sit, the finest collection of horticultural books in the world. By the thoughtfulness and kindness of Mr. Stickney, we have been enabled to purchase the elegant and sumptuous works with which our shelves are loaded; the ancient and curious books of gardener's craft, by which we can trace the development of this pure and delightful occupation from its earliest stages; the records of the labors of those who have made the affinities of plants the study of their lives; the accounts of the experiments, observations, and conclusions of the man who, by his "Origin of Species," not only changed the whole course of biological study, but also suggested new methods in all branches of inquiry, and the publications, equally valuable in another direction, of practical cultivators.

So great, however, has been, and is, the activity of these classes of workers, not only in observing and testing, but in publishing, that this fund will find full employment during the rest of the century.

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This Committee has, on former occasions, urged the necessity of having all the books in this room, not only for the convenience of readers, but for safety, and an incident which has recently occurred gives force to these representations. Some of the persons to whom our halls were let on the evening of November 28th, broke open the bookcase at the head of the northern stairway leading to the upper hall. This case contains many sets of agricultural and horticultural reports which have been obtained by great effort on the part of the Librarian, and which would be very difficult to complete again, if broken. None of the books appear to have been abstracted this time, yet the occurrence shows that they are not safe in their present position.

In conclusion, this Committee must again make its annual statement that the bookcases are crowded. Behind the books exposed to view, hundreds of others are packed, unseen and therefore unnoted.

For the Committee,

W. E. ENDICOTT, *Chairman.*

LIBRARY ACCESSIONS.

Books Purchased.

Pierre, L., Directeur du Jardin Botanique de Saïgon. Flore Forestière de la Cochin Chine. 5e Fascicule, in continuation. Folio. 16 plates. Paris.

Jaubert, M. le Comte, et M. Ed. Spach. Illustrationes Plantarum Orientalium, ou Choix de Plantes Nouvelles ou Peu Connues de l'Asie Occidentale. 5 vols. 4to. 500 plates and 4 maps. Paris: 1842-1857.

Cesati, V., and others. Flora Italiana. Fasc. 29-31, in continuation. 8vo. 7 plates. 1883.

Willkomm, Maurice. Illustrationes Florae Hispaniae, insularumque Balearium. Livraisons 4, 5, and 6, in continuation. 4to. 28 plates. Stuttgart: 1882.

Flora Danica. Fasc. 51, completing the work. Folio. 60 colored plates. Hauniæ: 1883.

Hallier, Dr. Ernst. Flora von Deutschland. Lieferungen 57-95, in continuation. Small 8vo. Many colored plates. Gera-Untermhaus. 1882-1883.

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Schkuhr, Christian. Botanisches Handbuch der mehresten theils in Deutschland wildwachsenden, theils ausländischen in Deutschland unter freiem Himmel ausdauernden Gewächse. Zweite mit dem Nachtrag der Riedgräser vermehrte Auflage. 4 vols. in 6. 8vo. 485 colored plates. Leipsic: 1808.

Seboth, Jos., and F. Graf. Alpenpflanzen. Nos. 42–46, in continuation. 16mo. 45 colored plates. Prague: 1882–83. Also, the English Text to the first three series. Edited by Alfred W. Bennett. London.

Jenkinson, James. A Generic and Specific Description of British Plants; translated from the Genera et Species Plantarum of the celebrated Linnæus, etc. 8vo. 5 plates. Kendal: 1775.

Meyer, Ernestus. De Plantis Labradoricis. 16mo. Leipsic: 1830.

Provancher, L'Abbé L., Curé de Portneuf. Flore Canadienne, ou Descriptions de toutes les Plantes des Forêts, Champs, Jardins, et Eaux du Canada, accompagnée d' un Vocabulaire des Termes Techniques, et de Clefs Analytiques. 8vo. 2 vols. in 1. 420 wood-cuts. Quebec: 1862.

Rafinesque, C. S., A.M., M.D. Medical Flora, or Manual of the Botany of the United States of North America, containing Figures and Descriptions of Medical Plants. 2 vols. 12mo. Wood-cuts. Philadelphia: 1828–1830.

Bongard, M. Observations sur la Végétation de l'Isle de Sitchka. 4to. pamphlet. 1831.

Bruhin, Th. A. Vergleichende Flora Wisconsins. 8vo. 1876, 1877, 1878.

Ward, Lester F., A.M. Guide to the Flora of Washington and vicinity. 8vo. Map. Washington: 1881.

Hemsley, W. B. Biologia Centrali-Americana. Vol. 3, Part 14, October, 1882; Part 16, November, 1883, in continuation. 4to. 10 plates.

Karsten, Hermann. Florae Columbiae Terrarumque Adiacentium Specimina Selecta in Peregratione Duodecim Annorum observata. 2 vols. Folio. 200 colored plates. Berlin: 1858–1869.

Meyen, F. J. F., Ph. D., M. D., etc. Outlines of the Geography of Plants, etc. Translated by Margaret Johnston. 8vo. Plate. London: 1846. [Published by the Ray Society.]

Warner, Williams, & Moore's Orchid Album. Vol. 2, Parts 17–24; Vol. 3, Parts 25–29, in continuation. 4to. 52 colored plates. London: 1882, 1883.

Mueller, Baron Ferd. von. Eucalyptographia. Decades 3–8, in continuation. 4to. 60 plates Melbourne: 1879–1882.

Moore, Thomas, F. L. S., and George Jackman, F. R. H. S. The Clematis as a Garden Flower, etc. 8vo. 17 plates. London: 1872.

Bentham, George, and J. D. Hooker. Genera Plantarum. Vol. 3, Part 2, completing the work. 8vo. London: 1883.

Baillon, H. The Natural History of Plants. Translated by Marcus M. Hartog. Vols. 1 and 2. 811 wood-cuts. Royal 8vo. London: 1871.

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Smith, Sir James Edward, M. D., F. R. S. A Grammar of Botany, illustrative of Artificial as well as Natural Classification, with an Explanation of Jussieu's System. To which is added a reduction of all the Genera contained in the Catalogue of North American Plants to the Natural Families of the French professor; by the late Henry Muhlenburg, D.D. 8vo. 21 colored plates. New York: 1822.

The Botanist's Calendar and Pocket Flora, arranged according to the Linnæan System. To which are added references to the best figures of British Plants. 2 vols. 16mo. London: 1797.

Zanoni, Giacomo. Istoria Botanica, etc. Folio. 80 plates. Bologna: 1675.

Linnean Society's Journal,— Botany. Vols. 18 and 19, and Nos. 123–129, in continuation. 8vo. London: 1880–1883.

Schlechtendahl, D. F. L. von (vols. 1–34), und Dr. Aug. Garcke (Neue Folge, vols. 35–43). Linnæa; ein Journal für die Botanik in ihrem ganzen Umfange. 43 vols. 8vo. Many plates. Berlin: 1826–1882.

Dodel-port, Dr. Arnold and Caroline. Anatomical and Physiological Atlas of Botany. Parts 5 and 6, large folio, 12 colored plates; also handbooks, small 8vo. in continuation. 1883.

M'Alpine, D., F. C. S. The Botanical Atlas, a Guide to the Study of Plants, containing representations of the leading forms of plant life. 2 vols. Large 4to. Vol. 1, Phanerogamia; Vol. 2, Cryptogamia. 52 colored plates. Edinburgh: 1883.

Todaro, Augustine. Hortus Botanicus Panormitanus, etc. Vol. 2, Fasc. 2 and 3, in continuation. Folio. 4 colored plates. Palermo: 1879–1882.

Keith, Rev. Patrick, Clerk, F. L. S. A Botanical Lexicon, or Expositor of the Terms, Facts, and Doctrines of the Vegetable Physiology, brought down to the present time. 8vo. London: 1837.

Saunders, W. Wilson. Refugium Botanicum. Vol. 2, Parts 2 and 3, and Vol. 5, Part 3, completing the set. 8vo. 72 plates. London: 1872, 1879, 1882.

Hooker, W. J., LL.D., F. R. A. & L. S., etc. Companion to the Botanical Magazine. 2 vols. 8vo. 32 colored plates. London: 1835 and 1836.

Darwin, Charles, M. A., LL.D., F. R. S. The Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life. 6th edition. Small 8vo. London: 1882.

Muller, Prof. Hermann. The Fertilization of Flowers. Translated and edited by D'Arcy W. Thompson, B. A., with a preface by Charles Darwin. 8vo. 186 wood-cuts. London: 1883.

Masters, Maxwell T., M. D., F. R. S. Life on the Farm. Plant Life. Small 8vo. London: 1883. [Handbook of the Farm Series.]

Balfour, John Hutton, A. M., M. D. Edin., F. R. S., Sec. R. S. E., F. L. S. A Manual of Botany, being an Introduction to the Study of the Structure, Physiology, and Classification of Plants. 5th edition. 963 wood-cuts. Small 8vo. Edinburgh, 1875.

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Balfour, John Hutton. The Botanist's Companion, or Directions for the Use of the Microscope, and for the Collection and Preservation of Plants, with a Glossary of Botanical Terms. 2d edition. Small 8vo. 21 wood-cuts. Edinburgh: 1875.

Hofmeister, Dr. Wilhelm. Translated by Frederick Currey, M. A., F. R. S., On the Germination, Development, and Fructification of the Higher Cryptogamia, and on the Fructification of the Coniferæ. 8vo. 65 plates. London: 1862. [Published by the Ray Society.]

Karsten, H. Pharmaceutische Medicinische Botanik. Lieferungen 7–12, in continuation. 8vo. Many wood-cuts. Berlin: 1882, 1883.

Zippel, Hermann, and Karl Bollmann. Repräsentanten Einheimischer Pflanzenfamilien. 2d Abtheilung, 3d Lieferung, in continuation. 8vo., with folio atlas of 12 colored plates. Braunschweig: 1882.

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In Memoriam. Dr. John A. Warder. 8vo. pamphlet. [From the American Journal of Forestry, August, 1883.] Hon. Marshall P. Wilder. copies.

Periodicals Purchased.

English. — Gardeners' Chronicle.
Gardeners' Magazine.
Journal of Horticulture and Cottage Gardener.
The Garden.
Gardening Illustrated.
Curtis's Botanical Magazine.
Florist and Pomologist.
Journal of Botany.
Journal of Forestry.

French. — Revue Horticole.
Revue des Eaux et Forêts.

Belgian. — Illustration Horticole.
Flore des Serres.
Belgique Horticole.
Revue de l' Horticulture, Belge et Étrangère.

German. — Botanische Zeitung.
Gartenflora.

American.—Country Gentleman.
American Journal of Forestry.
American Naturalist.

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ERIODICALS RECEIVED IN EXCHANGE.

ner's Monthly.
lian Horticulturist.
s' Floral Cabinet.
Californian.
ican Garden.
Illustrated Monthly Magazine.
's Fruit Grower.
tch's Magazine.
Time and Harvest.
in of the Torrey Botanical Club.
cal Gazette.
cientific Roll.
Farmer.
ome Farm.
and Farmer.
ngland Farmer.
chusetts Ploughman.
an Cultivator.
ngland Homestead.
an Agriculturist.
New Yorker.
sbandman.
an Rural Home.
nd Farmer.
Dispatch.
Farmer.
lustrialist.
Daily Advertiser.
Morning Journal.
Post.
Daily Globe.
Evening Transcript.
vening Traveller.
tage Hearth.

BOOKS, ETC., WANTED.

g any of the books in the following list to dispose of will the "Librarian of the Massachusetts Horticultural l Hall, Boston."

nnicæ, Part 2. 4to. Huddersfield, 1790.
tany, Supplement to the 1st edition; Vol. 5, including beyond No. 2,960.
e Rose. Vol. 2. 4to.
ngland. 8vo. Edinburgh: 1845.

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Murray, Andrew, on the Synonymy of various Conifers, — all but Part 1.
——— ———. Notes upon Californian Trees, all but Part. 1.
Bateman's First Century of Orchidaceous Plants.
Lindley's Folia Orchidacea, Part 9.
Floral World, 1866.
Royal (London), Horticultural Society's Journal, between Vol. 9, 1854, and Vol. 6 [New Series?], 1880.
Annales de la Société d'Horticulture de Paris, January, 1832.
Bulletin de la Société d'Horticulture du Département de la Seine Inferieure (formerly Société de Rouen), Tome 5, Cahier 4; Tome 7, Cahier 1; Tome 14, Cahier 2. Also, Tome 2, Cahier 8; Tome 3, Cahiers 2 and 6; being Cahiers 1, 2, and 3 of Tome 1 of Pomologie (pp. 1–52, 53–76, and 77–108). Also, Tome 1, Cahier 6, Pomologie (pp. 159–175); Tome 2, Cahier 3, Pomologie.
Bulletin de la Société d'Horticulture de la Sarthe. All previous to 1872.
Indiana Horticultural Society. Transactions at the first nine sessions, previous to 1871.
Missouri Horticultural Society. Reports previous to 1880, except that of the 5th meeting, in 1864.
Iowa State Horticultural Society. Reports previous to 1867; also 1868, 1869, 1871 and 1874.
Nebraska Horticultural Society. Transactions, other than 1871, 1872, 1877–1878, and 1879.
Ontario Fruit Growers' Association. Reports previous to 1869.
Pennsylvania Fruit Growers' Society. Reports previous to 1867.
Ohio Nurserymen and Fruit Growers' Convention Reports. Ohio Pomological Society's Reports, except the Fourth and Eighth Sessions, 1852 and 1857.
United States Patent Office Agricultural Reports, 1839, 1842, 1843.
United States Department of Agriculture; Special Reports, 14 and 15, First Series.
Reports of the Consuls of the United States on the Commerce, Manufactures, etc., of their Consular Districts. Nos. 1, 2, 4, 5, 8–10, 14, 16, 18–20, 23, 27–29.
Virginia Commissioner of Agriculture, First Annual Report.
Illinois Entomological Reports; First, by B. D. Walsh.
Iowa Forestry Annual, — all but No. 5, 1879.
Boston Park Reports. City Documents, No. 123, 1869; No. 15, 1879; Nos. 84, 111, 118, 1880; Nos. 23, 93, 124, and 134, 1881; No. 148, 1882, and No. 150, 1883.
Central Park, New York. Second Report, 1859, with map.
Brooklyn Park Reports. 12th, 1871, 13th, 1872, and all subsequent to 1882.
Fairmount Park. Fourth Annual Report of the Commissioners, with illustrations.
The Phytologist. First series, 1842–1855.
Revue Horticole. First Series, Vols. 1–3, Paris: 1829–1840; Second Series Vols. 1–5, 1841–1846.

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Published by Beach & Son, Brooklyn. Sept. 1872–
numbers. American Garden: The four numbers for
ınd October, 1877, and January, 1878, and the four
1879.
·ist. Vols. 7 and 8, and the January, February, March,
ıly numbers of Vol. 9.
a, January, 1881, and March, 1882.
Jacksonville, Fla.). Vol. 1, 1875, the March number
d the March number of Vol. 4.
ork State Agricultural Society. Vol. 11, Nos. 1, 4, 7,
12, No. 12. Vol. 13, Nos. 10, 11, and 12. Vol. 14,
), 10, 11, and 12. Vol. 15, Nos. 3, 4, 6, 7, and 12.
?, and the whole of Vols. 17, 18, and 19.
Association Review and Journal, January, 1882, and
March, 1883.
8vo. 1864. Part of Vol. 16.
t. Vol. 1, No. 2; Vol. 2, No. 1; and Vols. 9, 11, 15,

Vol. 2, Nos. 27, 28, 29, and 30. Also, Title page and

fth Series. Vol. 3, Nos. 7–12, January–June, 1862,
ding volumes to 1873, inclusive, also the numbers for
)ecember, 1877, and April to December, inclusive,

:h, 1875.
:ural Argentina. Vol. 16, Nos. 3, and 20.
Annual, Nos. 1, 2, and 3, 1867, 1868, and 1869.
Annual, Nos. 1, 4, and 5, 1867, 1870, and 1871.
Nos. 3 and 4, 1869 and 1870.
ıral College, 1st, 2d, 3d, 17th, 18th, 19th, and 21st,

ılture, 1st, 2d, and 3d Reports, 1875, 1876, and 1877.

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REPORT

OF THE

SECRETARY AND LIBRARIAN,

FOR THE YEAR 1883.

Besides the gradual increase of work in all departments, the most noteworthy variation from the former work of the Secretary has been the printing of extra copies of the reports in the "Evening Transcript," of the meetings for discussion. The report of each Saturday's meeting has thus been placed on our tables the following week, and has proved highly acceptable to members of the Society and others. Under these circumstances special pains have been taken to make the reports as accurate and complete as the time admissible for preparing a report for a daily paper, the space allowed, would permit.

In the library, drawers for the accommodation of the Card Catalogue have been added to all the bookcases in the smaller rooms and in doing this the bookcases, which were much settled by the weight of the books, have been, in effect, rebuilt, and are now more substantial than ever before. In replacing the books they have been better classified, and the improvement of the location, as well as the completion of imperfect sets, throughout the library, has been diligently pursued. The volumes of the appropriation for binding, etc., has permitted the repair, which was much needed, of the and the books in the report of the Library Committee for 1882, as during that year, and also the reduction, to some extent, the accumulation of books needing binding. This work continued during the coming year, and it believe present appropriation will, if continued for few us to entirely clear off this accumulation.

ROBERT N

Secretar

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ASURER'S REPORT,

FOR THE YEAR 1883.

RECEIPTS.

er last report,		$8,332 38
		7,439 72
		10,119 00
ssessments,		890 00
ooks,		30 00
		10 50
ıs,		4 00
netery,		4,399 68
,		950 61
,		10 00
		94 12
		$32,280 01

EXPENDITURES.

	$1,073 02	
	2,275 00	
	156 75	
	3,454 16	
	3,522 32	
	262 53	
ıd water ($14.38), less		
	430 33	
	955 07	
es,	513 20	
	2,770 65	
;ements,	429 85	
ation and Discussion,	25 00	
ınd Printing,	997 19	
	710 95	
d,	$17,576 02	

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Brought forward,		$17,576 02
Library,	330 00	
Card Catalogue,	100 00	
Reduction of Floating Debt,	9,000 00	
Rights on Montgomery Place,	50 50	
Damages from Accident, and Legal Services,	1,080 98	
Cash on hand December 31, 1883,	4,142 51	
		$32,280 01

ASSETS.

Real Estate, Furniture, and Exhibition ware,		$256,585 56
Library last year,	$21,646 12	
Added this year,	1,000 00	22,646 12
		1,500 00
		394 00
		4,142 51
Bonds, C., B. & Q. R. R., at par,		
Stereotype Plates, and copies of History,		
Cash on hand December 31, 1883,		$285,268

LIABILITIES.

Mortgage debt, bearing interest at 4¼ per cent. per annum, due October 1, 1888,	$60,000 00	
Loan, without interest, payable to Harvard College in 1899,	12,000 00	
Note payable to Massachusetts National Bank,	3,000 00	75
		$21
Surplus,		

MEMBERS.

Number of Life Members per last report,	583	
Added during the year,	13	
	596	
Deceased,	8	
		588

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per last report, .	274		
g the year, . . .	17		
	291		
. . .	5		
. . .	2		
	7		
		284	
l number of members,			872
bership:			
bers, ...	$390 00		
embers, . . .	170 00		
nts, ...	330 00		
			$890 00

mmittee having audited the accounts of the and have subscribed to, on a book kept for that ing report:

Horticultural Society
account with GEORGE W. FOWLE, *Treasurer.*

Credit.

ry, December 31, 1882, . .	$8,332 38
per receipt book, . . .	23,947 63
	$32,280 01

Contra Debit.

per disbursement book, . .	$28,137 50
ccount, ...	4,142 51
	$32,280 01

1, 1884. We have examined the above correct, and the balance of cash on hand nd forty-two dollars and fifty-one cents, as

H. H. HUNNEWELL,
FRANCIS B. HAYES,
FRED'K L. AMES,
} *Finance Committee.*

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For the year 1883 the average income of the Society, from rental of Halls, Stores, and Mount Auburn Cemetery has been about the same as in 1882. The floating debt of $12,000 has been reduced to $3,000 during the past year, and this balance of $3,000 will be paid in January, 1884, from funds now on hand.

The mortgage debt of $60,000, at 5½ per cent. interest, has been renewed for five years, coming due October 1, 1888, and the annual rate of interest has been reduced to 4½ per cent.

The rental of Stores for 1884 is expected to show an increase of about twenty-five hundred dollars.

GEO. W. FOWLE, *Treasurer.*

Boston, February 7, 1884.

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same:

Ivy Path,	$487 00
Chant and Watriss Lots,	1,875 63
Pearl Avenue to Eagle Avenue,	934 87
	$3,297 50
One-quarter of $3,297.50 is	$824 38
Balance due Massachusetts Horticultural Society,	4,399 68
	$5,224 06

" " " March,	283 00
" " " April,	440 00
" " " May,	537 50
" " " June,	4,942 50
" " " July,	2,996 00
" " " August,	1,338 75
" " " September,	1,089 75
" " " October,	3,569 00
" " " November.	1,321 00
" " " December,	1,242 00
Net amount receipts from Receiving Tomb,	643 00
	$22,333 25
Less graves repurchased,	37 00
	$22,296 25
Deduct for Annual Expenses,	1,400 00
Mass. Horticultural Society one-fourth part of	$20,896 25
	$5,224 06

E. & O. E.

December 31, 1883.

H. B. MACKINTOSH, *Treasurer.*

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MASSACHUSETTS HORTICULTURAL SOCIETY,

To the PROPRIETORS OF THE CEMETERY OF MOUNT AUBURN, *Dr.*

For one-fourth part of the following expenditures for grading new lands for sale during 1883:

Ivy Path.

240	days, men,	$480 00		
2	" man and horse,	7 00		
			$487	00

Chant and Watriss Lot.

188½	days, men,	$277 00		
456¾	" man and horse,	1,598 63		
			1,875	63

Pearl Avenue to Eagle Avenue.

145	days, men,	$290 00		
184¼	" man and horse,	644 87		
			934	87
			$3,297	50
One-fourth part of $3,297.50 is			$824	88

J. W. LOVERING, *Sup't.*

MOUNT AUBURN, Dec. 31, 1883.

I certify the foregoing to be a true copy of accounts of improvements for the year 1883, rendered by the Superintendent.

H. B. MACKINTOSH, *Treasurer.*

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ssachusetts Horticultural Society.

AND STANDING COMMITTEES FOR 1884.

President.

FRANCIS B. HAYES, of Boston.

Vice-Presidents.

RE, of Concord. BENJAMIN G. SMITH, of Cambridge.
NGS, of Woburn. CHARLES H. B. BRECK, of Boston.

easurer and Superintendent of the Building.

GEORGE W. FOWLE, of Boston.

Secretary and Librarian.

ROBERT MANNING, of Salem.*

Recording Secretary.

ROBERT MANNING, of Salem.

rofessor of Botany and Vegetable Physiology.

JOHN ROBINSON, of Salem.

Professor of Entomology.

SAMUEL H. SCUDDER, of Cambridge.

Standing Committees.

Executive.

THE PRESIDENT, FRANCIS B. HAYES, CHAIRMAN.
SIDENTS, MARSHALL P. WILDER, CHARLES M. HOVEY, JAMES
YDE, WILLIAM C. STRONG, FRANCIS PARKMAN, WILLIAM
Y, JR.; CHAIRMAN OF FINANCE COMMITTEE, H. H. HUNNE-
WELL; F. L. AMES, CHARLES H. B. BRECK, JOHN C.
HOVEY, HENRY P. WALCOTT.

---

tions for the Secretary, on the business of the Society, should be addressed to him at Horticul-
on.

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Finance.

H. HOLLIS HUNNEWELL, Chairman.

FRANCIS B. HAYES. F. L. AMES.

Publication and Discussion.

BENJAMIN G. SMITH, Chairman.

JOHN B. MOORE. WILLIAM H. HUNT.

Establishing Prizes.

CHAIRMAN OF COMMITTEE ON FRUITS, Chairman.

CHAIRMEN OF COMMITTEES ON FLOWERS, VEGETABLES, AND GARDENS, *EX OFFICIIS*; C. M. ATKINSON, P. BROWN HOVEY, JOHN B. MOORE.

Library.

WILLIAM E. ENDICOTT, Chairman.

THE PROFESSOR OF BOTANY AND VEGETABLE PHYSIOLOGY AND THE PROFESSOR OF ENTOMOLOGY, *EX OFFICIIS*;

HENRY P. WALCOTT. FRANCIS H. APPLETON.

J. D. W. FRENCH. E. P. RICHARDSON.

Gardens.

JOHN G. BARKER, Chairman.

CHAIRMEN OF COMMITTEES ON FRUITS, FLOWERS, AND VEGETABLES, *EX OFFICIIS*;

GEORGE S. HARWOOD, CHARLES W. ROSS, JOHN E. PEABODY.

Fruit.

E. W. WOOD, Chairman.

P. BROWN HOVEY.	CHARLES F. CURTIS.	O. B. HADWEN.
BENJAMIN G. SMITH.	J. W. MANNING.	WARREN FENNO.

Plants and Flowers.

WILLIAM H. SPOONER, Chairman.

PATRICK NORTON.	JAMES CARTWRIGHT.	J. H. WOODFORD.
F. L. HARRIS.	DAVID ALLAN.	EDWARD L. BEARD.

Vegetables.

CHARLES N. BRACKETT, Chairman.

JOSIAH CROSBY.	GEORGE W. PIERCE.	WARREN HEUSTIS.
CHARLES E. GRANT.	SAMUEL HARTWELL.	CEPHAS H. BRACKETT.

Committee of Arrangements.

EDWARD L. BEARD, Chairman.

CHAIRMEN OF COMMITTEES ON FRUITS, FLOWERS, VEGETABLES, AND GARDENS, *EX OFFICIIS*;

JOHN C. HOVEY.	WILLIAM H. HALLIDAY.	C. M. ATKINSON.
JAMES COMLEY.	CHARLES F. CURTIS.	JOSEPH H. WOODFORD.
WARREN HEUSTIS.	NATHANIEL T. KIDDER.	

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MEMBERS FOR LIFE.

idence, or any inaccuracies, should be promptly reported to the Secretary.

---

e E.,	Medford.	Bates, Caleb,	Kingston.
,	Taunton.	Bayley, John P.,	Boston.
.	Becket.	Beal, Alexander,	Dorchester.
	Mount Auburn.	Beckford, D. R., Jr.,	Dedham.
f.,	Canton.	Bell, Joseph H.,	Quincy.
ck L.,	North Easton.	Bemis, Emery,	Grantville.
	Boston,	Berry, James,	Boston.
as,	"	Bickford, Weare D.,	Allston.
s,	"	Birchard, Charles,	Framingham.
ick,	Brookline.	Black, James W.,	Boston.
S.	Boston.	Blagg, Samuel,	Newbern, N. C.
xander,	Hingham.	Blanchard, J. W.,	Boston.
rles L.,	Swampscott.	Blaney, Henry,	Brookline.
ak W.,	Boston.	Blinn, Richard D.,	Chicago, Ill.
n,	Brookline.	Bliss, William,	Springfield.
ward,	Reading.	Bocher, Ferdinand,	Boston.
ncis H.,	Peabody.	Bockus, Charles E.,	Dorchester.
n. S.,	Boston.	Bond, George W.,	Boston.
a,	Belmont.	Borland, John N.,	New London, Ct.
rd,	Boston.	Botume, John,	Stoneham.
,	"	Bouvé, Thomas T.,	Boston.
,	"	Bowditch, Azell C.,	Somerville.
		Bowditch, J. Ingersoll,	Boston.
ge,	Brookline.	Bowditch, Wm. E.,	"
in C.,	Concord, N. H.	Bowker, William H.,	"
am E.,	Boston.	Brackett, Cephas H.,	Brighton.
hn C.,	Milton.	Brackett, Charles N.,	Newton.
ancis L.,	Boston.	Bradish, Levi J.,	Boston.
. C. F.,	"	Bragg, Samuel A. B.,	Mattapan.
mes M.,	"	Breed, Henry A.,	Lynn.
bert M.,	Everett.	Bresee, Albert,	Hubbardton, Vt.
lter S.,	Somerville.	Brewer, John Reed,	Boston.
liam H.,	Boston.	Brewer, Otis,	"
i C.,	"	Brigham, William T.,	"
nes,	Cambridgeport.	Brimmer, Martin,	"
win S.,	Concord.	Brintnall, Benjamin,	"
homas,	Dedham.	Brooks, Francis,	Medford.
lmund,	Newburyport.	Brown, Charles E.,	Yarmouth, N. S.
s,	Hingham.	Brown, Edward J.,	Brookline.

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Brown, G. Barnard,	Boston.	Clay, Henry,	Dorchester.
Brown, George B.,	"	Cleary, Lawrence,	West Roxbury.
Brown, Jacob,	Woburn.	Clement, Asa,	Dracut.
Brownell, E. S.,	Essex Junc., Vt.	Cleveland, Ira,	Dedham.
Bruce, Nathaniel F.,	Stoneham.	Cobb, Albert A.,	Brookline.
Bullard, John R.,	Dedham.	Coburn, Isaac E.,	Everett.
Bullard, William S.	Boston.	Codman, James M.,	Brookline.
Burnett, Joseph,	Southborough.	Codman, Ogden,	Lincoln.
Burnham, T. O. H. P.,	Boston.	Coffin, G. Winthrop,	West Roxbury.
Burr, Fearing,	Hingham.	Coffin, William E.,	Boston.
Burr, Matthew H.,	"	Converse, E. S.,	Malden.
Buswell, Edwin W.,	New York, N.Y.	Converse, Parker L.,	Woburn.
Buswell, Frank E.,	" " "	Coolidge, Joshua,	Watertown.
Butler, Aaron,	Wakefield.	Copeland, Franklin,	West Dedham.
Butler, Edward K.,	Jamaica Plain.	Cox, George P.,	Malden.
Butterfield, Wm. P.,	Arlington.	Coy, Samuel I.,	Boston.
		Crocker, George O.,	New Bedford.
Cadness, John,	Flushing, N. Y.	Crocker, Uriel,	Boston.
Cains, William,	South Boston.	Crosby, Josiah,	Arlington.
Calder, Augustus P.,	Boston.	Crowell, Philander,	Chelsea.
Capen, John,	"	Crowell, Randall H.,	"
Carlton, Samuel A.,	Somerville.	Cummings, John,	Woburn.
Carruth, Charles,	Boston.	Curtis, Charles F.,	Jamaica Plain
Carruth, Nathan,	Dorchester.	Curtis, George S.,	"
Carter, Miss Sabra,	Wilmington.	Cushing, Robert M.,	Boston.
Chamberlain, C. W.,	Arlington.		
Chapin, N. G.,	Brookline.	Daggett, Henry C.,	Boston.
Chapman, Edward,	Arlington.	Damon, Samuel G.,	Arlington.
Chase, A. J.,	Lynn.	Dana, Charles B.,	Brookline.
Chase, Daniel E.,	Somerville.	Darling, Charles K.,	Boston.
Chase, Hezekiah S.,	Boston.	Davenport, Edward,	Dorchester
Chase, William M.,	Baltimore, Md.	Davenport, Geo. E.,	Boston.
Cheney, Benjamin P.,	Boston.	Davenport, Henry,	"
Child, Francis J.,	Cambridge.	Davis, Curtis,	Cambridge.
Child, William C.,	Medford.	Davis, Hervey,	Cambridge.
Childs, Francis,	Charlestown.	Dawson, Jackson G.,	Jamaica Plain
Childs, N. R.,	Dorchester.	Deblois, Stephen,	Boston.
Claflin, Henry,	Brighton.	Denny, Clarence E.,	"
Claflin, William,	Newton.	Denny, R. S.,	Dorchester.
Clapp, Edward B.,	Dorchester.	Denton, Eben,	Brainerd, Miss.
Clapp, E. W.,	Walpole.	Dewson, Francis A.,	Boston.
Clapp, James H.,	Dorchester.	Dexter, F. Gordon,	Somerville.
Clapp, William C.,	"	Dickerman, George H.,	Cambridge.
Clark, Orus,	Worcester.	Dickinson, Alonzo B.,	Cambridge.
Clark, William S.,	Amherst.	Dike, Charles C.,	Somerville.
Clark, W. L.,	Neponset.	Dinsmore, Wm.	Boston.
Clarke, Miss Cora H.,	Jamaica Plain.	Dix, Joseph,	"

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	Dorchester.	Gardner, John L.,	Brookline.
.W.,	Andover.	Gibbs, Wolcott,	Cambridge.
a,	Boston.	Gillard, William,	Boston.
B.,	Fall River.	Gilson, F. Howard,	Reading.
B.,	" "	Glover, Albert,	Boston.
	Hopedale.	Glover, Joseph B.,	"
..,	Boston.	Goddard, A. Warren,	Brookline.
		Goddard, Mrs. M. T.,	Newton.
	Quincy.	Gorham, James L.,	Jamaica Plain.
ah,	Yarmouthport.	Gould, Francis,	Arlington.
.,	Boston.	Gould, Samuel,	Boston.
	Jamaica Plain.	Gray, James,	Wellesley.
am E.,	Canton.	Gregory, J. J. H.,	Marblehead.
a C.,	Hyde Park.	Greig, George,	Newton.
ge,	Concord.	Grinnell, Joseph,	New Bedford.
	Boston.	Groom, Thomas,	Dorchester.
am,	"	Grundel Hermann,	"
		Guild, J. Anson,	Brookline.
arles,	Belmont.		
S.,	Newton.	Hadwen, Obadiah B.,	Worcester.
	Quincy.	Hall, Edwin A.,	Cambridgeport.
L.,	Chelsea.	Hall, George A.,	Chelsea.
	Boston.	Hall, George R.,	Fort George, Fla.
ur H.,	Newton Highl'ds	Hall, John R.,	Boston.
in,	" "	Hall, Lewis,	Cambridge.
ohn,	Arlington.	Hall, Stephen A.,	Revere.
s,	Boston.	Hall, William F.,	Brookline.
en,	"	Halliday, William H.,	Boston.
stus,	"	Hammond, Gard. G.,	"
win,	West Newton.	Hammond, Samuel,	"
orge V.,	Belmont.	Hanson, P. G.,	Woburn.
Henry,	Belmont.	Harding, C. L.,	Cambridge.
hn W.,	Chelsea.	Harding, George W.,	Dorchester.
es L.,	Boston.	Harding, Lewis B.,	Boston.
B.,	Watertown.	Harding, W. C.,	"
am N.,	Monson.	Hardy, F. D., Jr.,	Cambridgeport.
ncis C.,	Cambridge.	Harrington, L. B.,	Salem.
n H.,	Boston.	Harris. Charles,	Cambridge.
liam B.,	Auburndale.	Hart, William T.,	Boston.
has. Wm.,	Boston.	Hastings, Edm. T.,	Boston.
braham,	Dorchester.	Hathaway, Seth W.,	Marblehead.
D. W.,	Boston.	Haughton, James,	Boston.
nathan,	"	Haven, Alfred W.,	Portsm'th, N. H.
nry Weld,	"	Hayes, Daniel F.,	Exeter, N. H.
		Hayes, Francis B.,	Boston.
hn,	West Roxbury.	Hayward, Daniel H.,	No. Cambridge.
Henry N.,	Belmont.	Hazeltine, Hazen,	Boston.

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Head, Charles D.,	Brookline.	Kendall, J. R.,	Woburn.
Hilbourn, A. J.,	Chelsea.	Kendrick, Mrs. H. P.,	Allston.
Hill, George,	Arlington.	Kennard, Charles W.,	Boston.
Hill, John,	Stoneham.	Kennedy, George G.,	"
Hilton, William,	Boston.	Kent, John,	Charlestown.
Hitchings, E. H.,	"	Keyes, E. W.,	Denver, Col.
Hodgkins, John E.,	Chelsea.	Keyes, George,	Concord.
Hollis, George M.,	Grantville.	Kidder, Henry P.,	Boston.
Hollis, John W.,	Brighton.	Kidder, Nath'l T.,	"
Holt, Mrs. S. A.,	Winchester.	Kimball, A. P.,	"
Hooper, Robert C.,	Boston.	King, Franklin,	Dorchester.
Hooper, Thomas,	Bridgewater.	Kingman, Abner A.,	Brookline.
Horner, Mrs. C. N. S.,	Georgetown.	Kingman, C. D.,	Middleborough.
Hovey, Charles H.,	Cambridgeport.	Kinney, John M.,	Roxbury.
Hovey, Charles M.,	"	Kinsley, Lyman,	Cambridgeport.
Hovey, John C.,	"	Kittredge, E. A.,	Boston.
Hovey, P. Brown,	"		
Howe, George,	Boston.	Lamb, Thomas,	Boston.
Howland, John, Jr.,	New Bedford.	Lancaster, Charles B.,	Newton.
Hubbard, Charles T.,	Boston.	Lane, John,	E. Bridgewater
Hubbard, G. G.,	Cambridge.	Lawrence, Amos A.,	Brookline.
Hubbard, J. C.,	Boston.	Lawrence, Edward,	Charlestown.
Hubbard, William J.,	"	Lawrence, James,	Groton.
Huckins, J. W.,	"	Lawrence, John,	Boston.
Humphrey, F. J.,	Dorchester.	Lee, Henry,	"
Humphrey, G. W.,	Dedham.	Leeson, Joseph R.,	Newton Cent
Hunneman, Jos. H.,	Boston.	Lemme, Frederick,	Arlington.
Hunnewell, Arthur,	Wellesley.	Leuchars, Robert B.,	Boston.
Hunnewell, H. H.,	"	Lewis, A. S.,	Framingha
Hunnewell, Walter,	"	Lewis, William G.,	"
Hunt, Franklin,	Boston.	Lincoln, George,	Hingham.
Hunt, Moses,	"	Locke, William H.,	Belmont.
Hunt, William H.,	Concord.	Lockwood, Rhodes,	Charlesto
Hyde, James F. C.,	Newton.	Lodge, Giles H.,	Swamps
		Loftus, John P.,	Newport
Inches, Henderson,	Boston.	Loomis, Jason B.,	Chelsea.
Inches, Herman B.,	"	Lord, George C.,	Newton
		Loring, Alfred,	South
Jackson, Abraham,	Boston.	Loring, Caleb W.,	Bosto
Janvrin, William S.,	Revere.	Loring, George B.,	Sale
Jeffries, John, Jr.,	Boston.	Lovett, George L.,	Bost
Jenks, Charles W.,	"	Low, Ariel,	"
Joyce, Mrs. E. S.,	Medford.	Lowder, John,	W
		Lowell, Augustu	B
Kakas, Edward,	Medford.	Luke, Elijah H.,	C
Kendall, D. S.,	Woodstock, Ont.	Lumb, William,	I
Kendall, Edward,	Cambridgeport.	Lunt, Charles H	

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re,	Brookline.	Page, Thomas,	Boston.
	Charlestown.	Paine, Robert T.,	"
		Palmer, John P.,	"
,	Boston.	Park, John C.,	Somerville.
.,	Cambridge.	Parker, Augustus,	Boston.
ı,	"	Parker, Harvey D.,	Boston.
ı W.,	Reading.	Parkman, Francis,	Jamaica Plain.
L. B.,	Reading.	Partridge, Henry,	Dunkirk, N. Y.
rt,	Salem.	Partridge, Horace,	Somerville.
ry S.,	Blackstone.	Paul, Alfred W.,	Dighton.
lerick,	Everett.	Peabody, John E.,	Salem.
ı A.,	Chelsea.	Pearce, John,	West Roxbury.
3.,	Boston.	Peck, O. H.,	Denver, Col.
than,	"	Peck, W. G.,	Arlington.
othy,	Providence, R.I.	Peirce, Silas,	Boston.
n,	Revere.	Penniman, A. P.,	Waltham.
bert,	Weston.	Perkins, Augustus T.,	Boston.
H.,	Lexington.	Perkins, Edward N.,	Brookline.
. T.,	Worcester.	Perkins, William P.,	"
s H.,	Boston,	Perry, George W.,	Malden.
es,	Dorchester.	Philbrick, William D.,	Newton Centre.
les,	Boston.	Phillips, John C.,	Boston.
B.,	Concord.	Pierce, Dean,	Brookline.
H.,	"	Pierce, George W.,	Everett.
ph, Jr.,	Boston.	Pierce, Henry L.,	Dorchester.
el F.,	"	Pierce, Samuel B.,	"
y B.,	"	Poole, Benjamin C.,	Chelsea.
am A.,	"	Poor, John R.,	Somerville.
nas,	West Roxbury.	Potter, Joseph S.,	Arlington.
ge A.,	Portsm'th, N. H.	Prang, Louis,	Boston.
ge W.,	Lynn.	Pratt, Lucius G.,	West Newton.
,	Boston.	Pratt, Robert M.,	Boston.
		Pratt, William,	Winchester.
niel,	Groton.	Pray, Mark W.,	Malden.
rge,	Dorchester.	Prescott, C. H.,	Cornwallis, N.S.
R.,	Winchester.	Prescott, Eben C.,	Boston.
W. W.,	Boston.	Prescott, W. G.,	"
bert W.,	Dedham.	Prescott, William G.,	Quincy.
les W.,	Allston.	Preston, George H.,	Boston.
amin F.,	Boston.	Preston, John,	Dorchester.
amin F.,	Cambridgeport.	Pringle, Cyrus G.,	Charlotte, Vt.
		Proctor, Thomas P.,	West Roxbury.
ram A.,	No. Marshfield.	Prouty, Gardner,	Littleton.
. Ripley,	Boston.	Putnam, Joshua H.,	Brookline.
ore C.,	"		
orge D.,	"	Ramsay, A. H.,	Cambridge.
		Rand, Edward S.,	Boston.
arles H.,	Boston.	Rand, Miss E. L.,	Newton Highl'ds.

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Rand, Oliver J.,	Cambridgeport.	Smith, Calvin W.,	Grantville.
Rawson, W. W.,	Arlington.	Smith, Charles H.,	Jamaica Plain.
Ray, James F.,	Franklin.	Smith, Chauncey,	Cambridge.
Ray, James P.,	"	Smith, Edward N.,	San Francisco.
Ray, Joseph G.,	"	Smith, George O.,	Boston.
Reed, George W.,	Boston.	Smith, James H.,	Needham.
Richards, John J.,	"	Smith, W. B.,	Boston.
Richards, William B.,	"	Snow, Eben,	Cambridge.
Richardson, C. E.,	Cambridge.	Snow, Miss Salome H.,	Brunswick, Me.
Richardson, Geo. C.,	"	Sparhawk, Edw'd C.,	Brighton.
Rinn, J. Ph.,	Boston.	Spaulding, Edward,	Jamaica Plain.
Robbins, I. Gilbert,	"	Spaulding, M. D.,	Boston.
Robbins, Nathan,	Arlington.	Speare, Alden,	Newton Centre.
Robeson, W. R.,	Boston.	Spencer, Alfred M.,	Dorchester.
Robinson, John,	Salem.	Springall, George,	Malden.
Rogers, John H.,	Boston.	Springer, John,	Sterling.
Ross, Henry,	Newton.	Stetson, Nahum,	Bridgewater.
Ross, M. Denman,	Boston.	Stickney, Rufus B.,	Somerville.
Ross, Waldo O.,	"	Stimpson, George,	New York, N. Y.
Ruddick, Dr. Wm. H.,	South Boston.	Stimpson, H. H.,	Cambridge.
Russell, George,	Woburn.	Stone, Amos,	Everett.
Russell, John E.,	Leicester.	Stone, George F.,	Newton.
Russell, Walter,	Arlington.	Stone, Phineas J.,	Charlestown.
		Story, E. Augustus,	Brighton.
Sampson, George R.,	New York, N.Y.	Strong, William C.,	Newton Highl'ds.
Sanborn, Amos C.,	Cambridgeport.	Sturgis, John H.,	Boston.
Sanford, O. S.,	Oxford, Md.	Sturgis, Russell Jr.,	"
Sargent, Charles S.,	Brookline.	Sturtevant, E. Lewis,	Geneva, N. Y.
Sargent, Ignatius,	"	Sumner, Edward,	Dedham.
Saville, Richard L.,	"	Surette, Louis A.,	Concord.
Sawtelle, Eli A.,	Boston.	Swain, Charles D.,	Roxbury.
Sawyer, Timothy T.,	Charlestown.		
Scott, Charles,	Newton.	Taft, John B.,	Boston.
Scudder, C. W.,	Brookline.	Tappan, Charles,	"
Sears, J. Montgomery,	Boston.	Taylor, Horace B.,	"
Seaver, Nathaniel,	East Boston.	Thacher, Alfred C.,	Dorchester.
Seaver, Robert,	Jamaica Plain.	Thayer, Henry,	No. Cambridge.
Shaw, C. C.,	Milford, N. H.	Thayer, Nathaniel,	Boston.
Shaw, S. P.,	Cambridge.	Thurlow, Thomas C.,	Newburyport.
Sheafe, Charles C.,	Boston.	Tidd, Marshall M.,	Woburn.
Sheafe, William,	Brookline.	Tilton, Stephen W.,	Boston.
Sheldon, Oliver S.,	Milton.	Todd, John,	Hingham.
Shimmin, Charles F.,	Boston.	Tolman, Benjamin,	Concord.
Shorey, John L.,	Lynn.	Tolman, Miss H. S.,	Boston.
Skinner, Francis,	Boston.	Torrey, Everett,	Charlestown.
Slack, Charles W.,	"	Turner, John M.,	Dorchester.
Smith, Benjamin G.,	Cambridge.	Turner, Roswell W.,	Boston.

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ındolph.	Wheelwright, A. C.,	Boston.
	Whipple, John A.,	"
oston.	Whitcomb, Wm. B.,	Medford.
rookline.	White, Benjamin C.,	Boston.
	White, Edward A.,	"
rookline.	White, Francis A.,	Brookline.
lyde Park.	Whitely, Edward,	Cambridge.
	Whiting, Nathaniel,	Brookline.
raintree.	Whitmore, C. O.,	Boston.
helsea.	Whittle, George W.,	Somerville.
awtucket.	Whytal, Thomas G.,	New York, N.Y.
Cambridge.	Wilbur, G. B.,	Watertown.
Braintree.	Wilcutt, Levi L.,	West Roxbury.
Dedham.	Wilder, Edw. Baker,	Dorchester.
"	Wilder, Henry A.,	Boston.
Waltham.	Wilder, Marshall P.,	Dorchester.
Boston.	Willard, E. W.,	Newport, R. I.
Newton.	Williams, Aaron D.,	Boston.
Newton Centre.	Williams, Benj. B.,	"
Beach Bluff.	Williams, Philander,	Taunton.
Boston.	Willis, George W.,	Chelsea.
Hyde Park.	Willis, J. C.,	Boston.
Brookline.	Wilson, Henry W.,	South Boston.
Newton Centre.	Wilson, Wm. Power,	Boston.
Newton.	Winship, F. Lyman,	Brighton.
Belmont.	Woerd, Charles V.,	Waltham.
Boston.	Woerd, C. V., Jr.,	"
Newport, R. I.	Wood, Luke H.,	Marlborough.
, West Roxbury.	Wood, R. W.,	Jamaica Plain.
Boston.	Wood, William K.,	West Newton.
"	Woods, Henry,	Dorchester.
, Brookline.	Woodward, Royal,	Brookline.
, Lincoln.	Wright, George C.,	West Acton.
Revere.	Wrisley, Frank,	New York, N.Y.
Boston.		

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Abbott, S. L., M. D.,	Boston.	Burley, Edward,	Beverly.
Adams, C. S.,	Framingham.	Burr, Charles C.,	Newton.
Allen, Andrew F.,	Arlington.	Butler, Edward,	Wellesley
Allen, Calvin,	Boston.		
Allen, C. L.,	GardenCity,N.Y.	Capen, Aaron D.,	Mattapan.
Ames, R. W.,	Boston.	Carter, Maria E.,	Woburn.
Anderson, Charles J.,	Longwood.	Cartwright, James,	Wellesley.
Atkinson, Chas. M.,	Brookline.	Chadbourne, M. W.,	Watertown.
Atkinson, Edward,	"	Chaffin, John C.,	Newton.
Atkinson, W. B.,	Newburyport.	Chapin, Gardner S.,	Arlington.
		Chapin, George H.,	Watertown.
Bacon, Augustus,	Boston.	Chase, Joseph S.,	Malden.
Bacon, William,	"	Cheney, Amos P.,	South Natick.
Badlam, William H.,	Dorchester.	Clark, James W.,	Framingham.
Bard, James,	Framingham.	Clark, Joseph,	Manchester.
Barker, John G.,	Lynn.	Clark, Joseph W.,	Dedham.
Batchelder, G. W.,	Dorchester.	Cobb, Jonathan H.,	"
Beard, Edward L.,	Cambridge.	Coe, Henry F.,	West Roxbury.
Beebe, J. Arthur,	Boston.	Collins, Frank S.,	Malden.
Beer, Carl,	Groton.	Comley, James,	Lexington.
Bird, John L.,	Dorchester.	Cox, James F.,	Abington.
Bliss, B. K.,	New York.	Crafts, William A.,	Boston.
Bock, William A.,	No. Cambridge.	Crosby, J. Allen,	Jamaica Plain.
Bolles, Matthew,	Boston.	Cruickshanks, J. T.,	Natick.
Bolles, William P.,	"	Curtis, Daniel T.,	Boston.
Bolton, John B.,	Somerville.	Curtis, Joseph H.,	"
Boott, William,	Boston.		
Bottomly, Robert,	Belmont.	Darling, Moses, Jr.,	South Boston.
Bowditch, E. Francis,	Framingham.	Davenport, A. M.,	Watertown.
Bowditch, James H.,	Brookline.	Davis, Frederick,	Newton.
Bradlee, John T.,	Boston.	Davis, Thomas M.,	Cambridgeport.
Breck, Charles H.,	Brighton.	Demar, John A.,	Lexington.
Breck, Charles H. B.,	"	Dolbear, Mrs. Alice J.,	Somerville.
Brooks, George,	Brookline.	Doogue, William,	Boston.
Brown, A. S.,	Jamaica Plain.	Duffley, Daniel,	Brookline.
Brown, Atherton T.,	Boston.	Dunn, Thomas,	Newport, R. I.
Brown, Benjamin F.,	Charlestown.	Dupee, James A.,	Brookline.
Brown, Jona., Jr.,	Somerville.		
Brown, Joseph T.,	Boston.	Eaton, Jacob,	Cambridgeport.
Bullard, George B.,	Hingham.	Edgar, William,	Newtonville.

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Rochester.	Hatch, Samuel,	Boston.
Glencove, N.Y.	Hayes, John L.,	Cambridge.
Stoneham.	Hayward, George P.,	Hingham.
Jamaica Plain.	Hazleton, H. L.,	Boston.
Melrose.	Hersey, Alfred H.,	Hingham.
West Newton.	Hersey, Edmund,	"
Revere.	Heustis, Warren,	Belmont.
Framingham.	Hewins, James,	Medfield.
Acton.	Hews, Albert H.,	No. Cambridge.
Medford.	Hill, Benjamin D.,	Peabody.
Dorchester.	Hill, Miss Katie A.,	Lowell.
Jamaica Plain.	Hinckley, Mrs. D. F.,	Chelsea.
Boston.	Howe, Rufus,	Marlborough.
Malden.		
West Newton.	Ireland, George W.,	Somerville.
Boston.		
Needham.	Jameson, G. W.,	East Lexington.
	Jones, Moses,	Brookline.
West Newton.	Jordan, Samuel,	Yarmouth.
., Newburyport.	Judkins, Rev. B.,	West Dedham.
Boston.		
Medford.	Kelley, George B.,	Jamaica Plain.
Somerville.	Kelsey, Fred W.,	Waverly, N. Y.
Boston.	Kendall, Jonas,	Framingham.
"	Kennard, Martin P.,	Brookline.
Neponset.	Kenrick, Miss A. C.,	Newton.
Medford.		
Malden.	Lamprell, Simon,	Marblehead.
Chelsea.	Lang, John H. B.,	Dorchester.
Boston.	Langmaid, Mrs. Mary,	Somerville.
Brighton.	Langworthy, Rev. I. P.,	Chelsea.
Jamaica Plain.	Leavens, E. W.,	Malden.
Concord.	Lee, Charles J.,	Dorchester.
Dorchester.	Lee, Francis H.,	Salem.
, "	Livermore, Miss M.,	Mount Auburn.
"	Loring, Charles G.,	Boston.
., "	Loring, John A.,	"
Hyde Park.	Lothrop, David W.,	West Medford.
., Boston.	Lothrop, H. A.,	Sharon.
Malvern, Ark.	Lothrop, Thornton K.,	Boston.
	Lowell, John,	Newton.
Revere.		
., South Boston.	Marcou, Mrs. J.,	Cambridge.
M., Jamaica Plain.	Markoe, G. F. H.,	Boston.
L., South Natick.	May, F. W. G.,	Boston.
, Lincoln.	McDermott, Andrew,	"
S., Newton.	McIntosh, A. S.,	"

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McLaren, Anthony,	Forest Hills.	Safford, Nathaniel F.,	Milton.
Mellen, George M.,	Brookline.	Saunders, Miss M.T.,	Salem.
Meriam, Dr. H. C.,	Salem.	Saville, George,	Quincy.
Merrill, J. Warren,	Cambridgeport.	Sawtell, J. M.,	Fitchburg.
Merrill, S. A.,	Wollaston.	Schlegel, Adam,	Boston.
Mills, William,	Somerville.	Schmitt, Georg A.,	Brookline.
Minton, Peter J.,	Forest Hills.	Scott, A. E.,	Lexington.
Morandi, Francis,	Malden.	Scott, George H.,	Allston.
Morandi, Francis W.,	"	Scudder, Samuel H.,	Cambridge.
Morton, James H.,	Boston.	Shattuck, F. R.,	Boston.
Murray, Daniel D.,	Brookline.	Shedd, Abraham B.,	Lexington.
Muzzey, Rev. A. B.,	Cambridge.	Shedd, Arthur B.,	Chicago, Ill.
		Sheppard, Edwin,	Lowell.
Nightingale, Crawford,	Dorchester.	Sheppard, S. A. D.,	Newton.
Norton, Michael H.,	Boston,	Simpson, Michael H.,	Saxonville.
Norton, Patrick,	"	Snow, Eugene A.,	Melrose.
		Southworth, Edward,	Quincy.
O'Brien, James,	Jamaica Plain.	Spooner, William H.,	Jamaica Plain.
		Sprague, Charles J.,	Boston.
Park, William D.,	Boston.	Squire, John P.,	Arlington.
Parker, John,	"	Starbird, Louis D.,	Malden.
Parsons, William,	"	Stevenson, Hamilton,	Woburn.
Patterson, James,	Cambridge.	Stone, Eliphalet,	Dedham.
Payson, Samuel R.,	Boston.	Stone, Samuel G.,	Charlestown.
Phillips, Nathaniel,	Dorchester.	Storer, Charles,	Natick.
Pickering, Mrs. E.C.,	Cambridge.	Story, Miss Sarah W.,	Brighton.
Pierce, Samuel H.,	Lincoln.	Strahan, Thomas, Jr.,	Chelsea.
Plimpton, W. P.,	West Newton.	Sullivan, J. L. D.,	Somerville.
Power, Charles J.,	S. Framingham.	Swan, Charles W.,	Boston.
Pratt, Mrs. Mary L.,	Hingham.		
Prince, Thomas,	Boston.	Tailby, Joseph,	Wellesley.
Purdie, George A.,	Wellesley Hills.	Talbot, Josiah W.,	Norwood.
Putnam, Charles A.,	Salem.	Tapper, Thomas,	Canton.
Putnam, Henry W.,	"	Terwilliger, S. F.,	Saratoga, N. Y.
		Tobey, Miss M. B.,	Brookline,
Randall, Macey,	Sharon.	Torrey, Bradford,	Boston.
Ranlett, S. A.,	Melrose.	Trautman, Martin,	"
Richards, John S.,	Brookline.	Turner, Nathaniel W.	"
Richardson, E. P.,	Lawrence.		
Richardson, Horace,	Framingham.	Underwood, Wm. J.,	Belmont.
Richardson, S. W.,	Boston.		
Ridler, Charles E.,	Kingston.	Van der Veur, P. W.,	New York, N. Y.
Roberts, Edward,	Hyde Park.	Vaughan, J. C.,	Chicago, Ill.
Rogers, John F.,	Cambridge.		
Ross, Charles W.,	Newtonville.	Walker, Charles H.,	Chelsea.
		Walker, Joseph T.,	Boston.
Safford, Fred'k M.,	Dorchester.	Walker, William P.,	Somerville.

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ıth Natick.	Wilmarth, Henry D.,	Jamaica Plain.
.em.	Wilson, B. Osgood,	Watertown.
naica Plain.	Wilson, George W.,	Malden.
mbridge.	Wiswall, Henry M.,	Watertown.
ston.	Withington, Henry H.,	Jamaica Plain.
nvers.	Wolcott, Mrs. H. L. T.,	Boston.
lem.	Wood, Mrs. Anna D.,	West Newton.
mbridgeport.	Wood, E. W.,	" "
ncord.	Woodford, Jos. H.,	Newton.
orwood.	Woolson, George C.,	Passaic, N. J.
'inchester.	Wright, Daniel,	Lowell.
ingham Centre.		
andolph.	Zirngiebel, Denys,	Needham.

M THE CONSTITUTION AND BY-LAWS.

CTION XXVI. — Life Members.

irty dollars shall constitute a Life Membership, and from all future assessments; and any member having on fee, may become a Life Member by the payment of ion thereto.

'II. — Admission Fee and Annual Assessment.

member, before he receives his Diploma, or exercises mber, shall pay the sum of ten dollars as an admission ect afterwards to an annual assessment of two dollars.

XXIX. — Discontinuance of Membership.

hall neglect for the space of two years to pay his annual se to be a member of the Society, and the Treasurer from the List of Members.

nnual Members is particularly called to Section XXIX.

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HONORARY MEMBERS.

A * denotes the member deceased. Correspondents of the Society and others confer a favor by communicating to the Secretary information of the dec change of residence, etc., of Honorary or Corresponding Members.

*Benjamin Abbott, LL. D., Exeter, N. H.
*John Abbott, Brunswick, Me.
*Hon. John Quincy Adams, LL. D., late President of the United Quincy.
*Professor Louis Agassiz, Cambridge.
*William T. Aiton, late Curator of the Royal Gardens, Kew, Engla
*Thomas Allen, late President of the St. Louis Horticultural Soci Louis, Mo., and Pittsfield, Mass.
*Hon. Samuel Appleton, Boston.
*Hon. James Arnold, New Bedford.
*Edward Nathaniel Bancroft, M. D., late President of the Hor and Agricultural Society of Jamaica.
*Hon. Philip P. Barbour, Virginia.
*Don Angel Calderon de la Barca, late Spanish Minister at W
*Robert Barclay, Bury Hill, Dorking, Surrey, England.
*James Beekman, New York.
*L'Abbe Berlèse, Paris.
*Nicholas Biddle, Philadelphia.
*Dr. Jacob Bigelow, Boston.
*Mrs. Lucy Bigelow, Medford.
*Le Chevalier Soulange Bodin, late Secrétaire Général d'Horticulture de Paris.
Hon. George S. Boutwell, Groton.
*Josiah Bradlee, Boston.
*Hon. George N. Briggs, Pittsfield.
*Hon. James Buchanan, late President of the United St Penn.
*Jesse Buel, late President of the Albany Horticultural S N. Y.
*Hon. Edmund Burke, late Commissioner of Patents, Was
*Augustin Pyramus de Candolle, Geneva, Switzerland.
Hon. Horace Capron, Ex-U. S. Commissioner of Agricul D. C.
*Commodore Isaac Chauncey, U. S. Navy, Brooklyn, N.

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ef Justice of New Brunswick, St. John.
hia.
gton, Ky.
icago, Ill.
FIN, Bart., England.
resident of the Pennsylvania Horticultural Society,

son, N. J.
t of the Pennsylvania Horticultural Society, Phila-

ton, N. J.
rtown.
ate U. S. Consul, Fayal, Azores.
D., Boston.
ondon.
R SCAMMEL DEARBORN, Roxbury.
ce-President of the Horticultural Society of London.
ston.
, U. S. Navy.
LL. D., Charleston, S. C.
RTH, late Commissioner of Patents, Washington, D. C.
ON, late Secretary of the King's County Agricultural
n, N. B.
T, LL. D., Boston.
T, Vermont.
urator of the Imperial Botanic Garden, St. Petersburg.
RD, late President of the United States, Buffalo, N. Y.
ate Professor of Botany at the Imperial Botanic
etersburg.
LINGHUYSEN, late President of the American Agricul-
New Brunswick, New Jersey.
late Vice-President of the Horticultural Society,
). C.
York.
iladelphia.
LDSBOROUGH, Talbot County, Maryland.
South Orrington, Maine.
Waltham.
late President of the Domestic Horticultural Society,
N. Y.
H, Charlies Hope, N. J.
RY HARRISON, late President of the United States,
Ohio.
D., Marietta, Ohio.
ate President of the Glasgow Horticultural Society.
. D. late President of the New York Horticultural

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*Joseph R. Ingersoll, late President of the Pennsylvania Horticultural Society, Philadelphia.
*Gen. Andrew Jackson, late President of the United States, Nashville, Tenn.
*Mrs. Martha Johonnot, Salem.
*Jared Potter Kirtland, M. D., LL. D., East Rockport, Ohio.
*Thomas Andrew Knight, late President of the Horticultural Society of London.
*Gen. La Fayette, La Grange, France.
*Le Comte De Lasteyrie, late Vice-President of the Horticultural Society of Paris.
L. A. H. Latour, M. P., Montreal, Canada.
*Baron Justus Liebig, Giessen, Germany.
*Prof. John Lindley, late Secretary of the Horticultural Society of London.
Franklin Litchfield, U. S. Consul at Puerto Cabello, Venezuela.
*Joshua Longstreth, Philadelphia.
*Nicholas Longworth, Cincinnati, Ohio.
*Jacob Lorillard, late President of the New York Horticultural Society.
*John C. Loudon, London.
*Hon. John A. Lowell, Boston.
*Baron Charles Ferdinand Henry Von Ludwig, late Vice-President of the South African Literary and Scientific Institution, Cape Town, Cape of Good Hope.
*Hon. Theodore Lyman, Brookline.
Col. Theodore Lyman, Brookline.
*Hon. James Madison, late President of the United States, Montpelier, Va.
*Mrs. Charlotte Marryatt, Wimbledon, near London.
Joseph Maxwell, Rio Janeiro.
D. Smith McCauley, U. S. Consul-General, Tripoli.
*Hon. Isaac McKim, late President of the Horticultural Society of Maryland, Baltimore.
Rev. James H. Means, Dorchester, Mass.
*James Mease, M. D., Philadelphia.
*Lewis John Mentens, Brussels, Belgium.
*Hon. Charles F. Mercer, Virginia.
*François André Michaux, Paris.
Donald G. Mitchell, New Haven, Conn.
*Samuel L. Mitchill, M. D., LL. D., New York.
*Hon. James Monroe, late President of the United States, Oak Hill, Va.
*Alfred S. Monson, M. D., late President of the New Haven Horticultural Society, New Haven, Conn.
*Hon. A. N. Morin, Montreal, Canada.
*Théodore Mosselmann, Antwerp, Belgium.
Baron R. Von Osten Sacken, Heidelberg, Germany.
Baron Ottenfels, Austrian Minister to the Ottoman Porte.
John Palmer, Calcutta.

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late President of the Albany and Rensselaer Horti-
, Albany, N. Y.
of Roseberry, late President of the Caledonian Horti-
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ecretary of the Horticultural Society of London.
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Curator of the Botanic Garden, Liverpool, England.
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ANN, Bolwiller, Alsace.
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w York.
ıurlington, N. J.
Burlington, N. J.
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late U. S. Consul at Gibraltar.
:, Port William, Nova Scotia.
ıan, Leavenworth, Kansas.
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ıangeway, British Secretary of Legation at Naples, Italy.
, Martinez, Cal.
ong, Rochester, N. Y.
ı, Canton, China.
, Pomaria, S. C.
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ıburn, New York.
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ttemare, Paris.
ael, late Secretary of the Horticultural Society, Antwerp,

ıer, M. D., late President of the Ohio State Horticultural
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hn Wilson, Edinburgh University, Scotland.
ıon, New York.
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A HISTORY

OF

AMERICAN HORTICULTURE.

The attention of Trustees and Librarians of Public Libraries, and of Horticulturists generally, is called to the History of the Massachusetts Horticultural Society, for fifty years, from its foundation in 1829. This work will be found of general interest, as the introduction comprises a sketch, much fuller than exists elsewhere, of the History of Horticulture in the United States, from the settlement of the country to the foundation of the Society, and the history of the Society onward is, in the language of President Hovey, in his address at the dedication of the present Hall of the Society, "the History of Horticulture in our country." It is handsomely printed, on an extra quality of paper, and embellished with a fine steel engraving of Gen. H. A. S. Dearborn, the first President, and heliotypes of the two Halls erected by the Society. Among other interesting matters, it contains an account of the foundation by the Society of Mount Auburn Cemetery, the parent of all similar cemeteries in the country.

The work is furnished to members of the Society, at cost, $2.50, and to others than members for $3, but will be supplied to public libraries and booksellers at the same price as to members. Please address the Secretary of the Society, at Horticultural Hall, Boston.

ROBERT MANNING,
Secretary.

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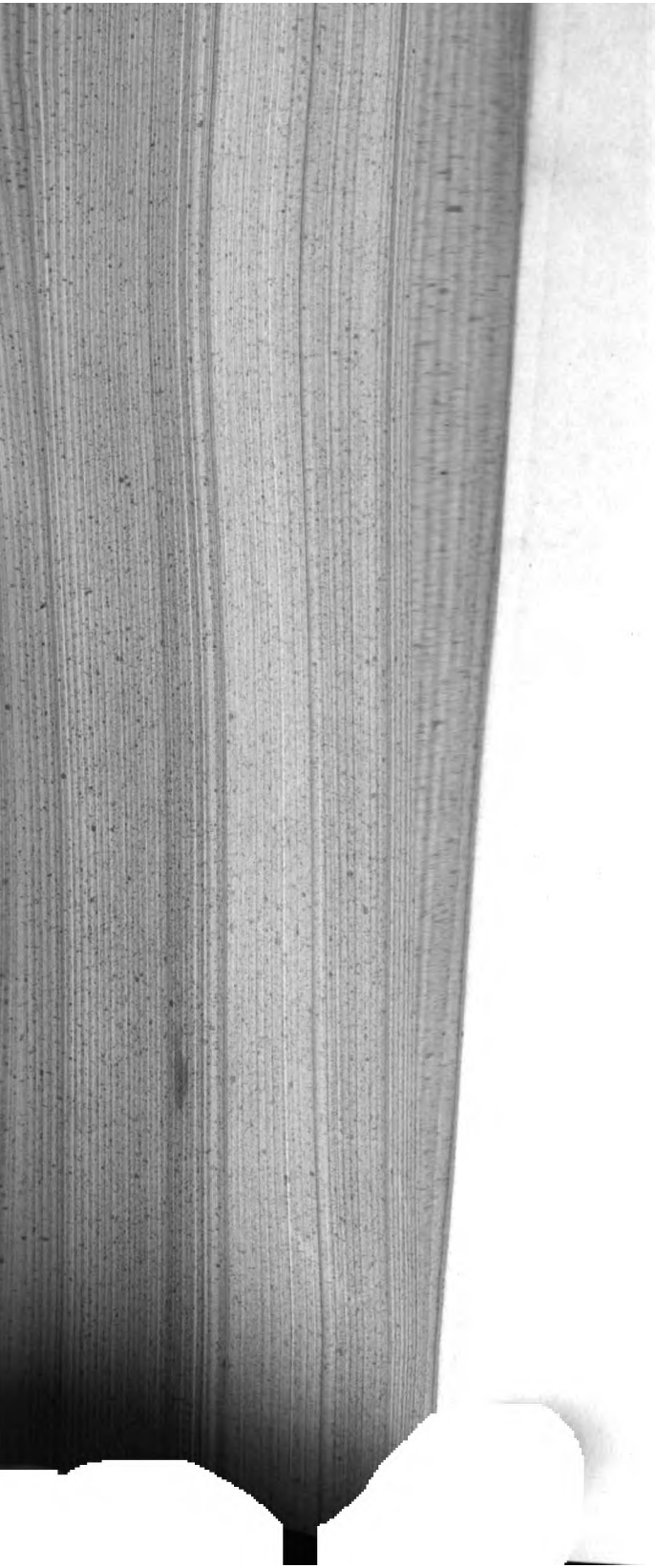

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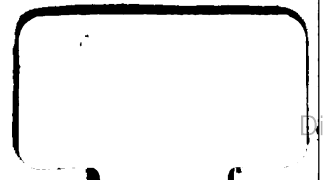

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